Food &c

4

Accessory Food

Tea, Coffee, Cocoa &c

Alcohol.

In Frankfort, Germany, water from a chemical manufactory had this effect in 1848.

CALCULUS. Stone or calculus is supposed to be caused in the same way. In Russia, Norwich, Norfolk, Eng., and Kentucky this is very common. [In my Practice]

GOITRE. Goitre, or enlargement of the thyroid gland is common in the low valleys of the Himalayas, Alps &c. It is due to a combination of causes.

COMBINATION OF CAUSES. Dampness, ~~chilliness~~, and the exclusion of light, ~~&~~ intermarriage, and above all bad water, are the causes. The water is found by those who made the observation, to contain an excess of lime and magnesia.* Removing the patient often cures him.

ACCESSORY FOOD. We are now ready to pass to the accessory food, that is such as is not constantly necessary, but in many circumstances useful.

CONDIMENTS. The condiments: pepper, mustard, salt and vinegar, come first. They are useful when there is a debility of the ~~alimentary canal~~ digestive organs. In perfect health.

× Punishment once in Holland by depriving criminals for a long time of salt.

They are moderate stimulants.

they are unnecessary. ~~Though believing this term requires to be analyzed and explained hereafter in the physiology of stimulation, yet~~

CONDIMENTS UNNECESSARY.

By stimulation we generally mean some- ~~action of the~~ thing that will bring the system above par, or if below, up to it. When there is no necessity for such excitement the use of stimulants is more or less injurious. Exhaustion follows it.

ESPECIALLY FOR CHILDREN.

In the case of children and all healthy persons, stimulants should not be given. The simplest diet is always the best for health.

TROPICAL CLIMATES.

There are however, persons who need stimulation of digestion. Especially in hot climates and warm seasons are the warming condiments necessary when there is a tendency to relaxation of the alimentary canal.

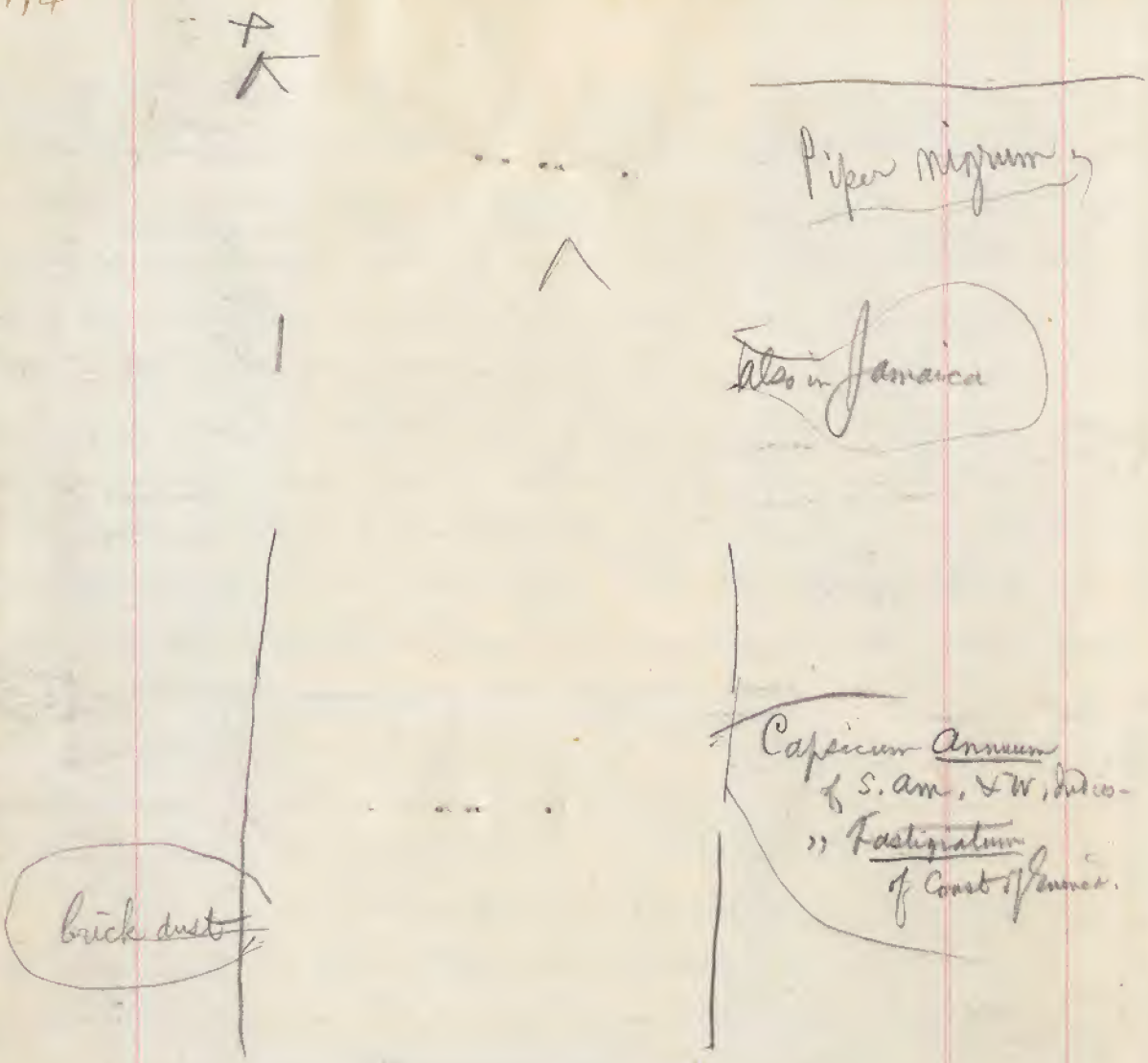
These stimulants are the products of hot climates; and are adapted to the regions in which they grow.

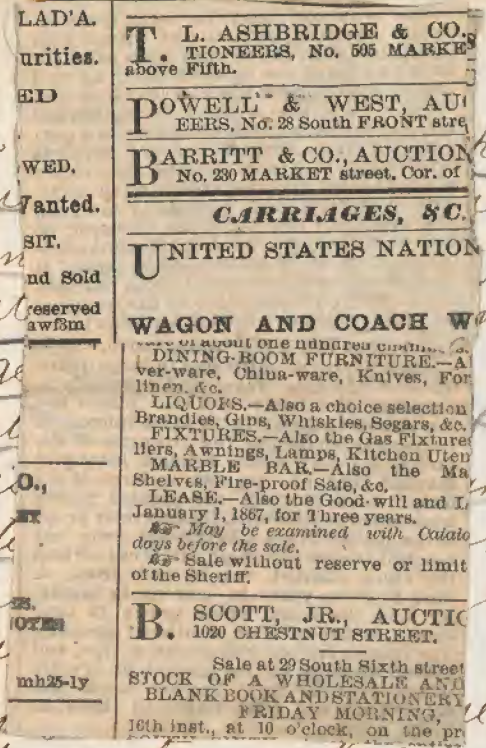
SALT.

Use in Salt, though used as a condiment is necessary to those far inland. Near the sea it is not so necessary because the vegetation and everything else possesses it.

PEPPER.

Pepper is of two kinds. The black


Piper nigrum
also in Jamaica
Capsicum Annuum
of S. am. & W. Indies
" Fastigiatum
of Coast of Jamaica.
brick dust



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DINING-ROOM FURNITURE.—A ver-ware, China-ware, Knives, For linen, &c.
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MARBLE BAR.—Also the Ma Shelves, Fire-proof Safe, &c.
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Sale at 29 South Sixth street
STOCK OF A WHOLESALE AN BLANK BOOK AND STATIONERY FRIDAY MORNING,
16th inst., at 10 o'clock, on the pr

is the milder red pepper, i as a medicin

MUSTARD. As to must ply. In large it is an emet

VINEGAR. Vinegar is anti-scorbut

ADULTERATIONS. All these adulteration contains wood pears, &c. Red contains brick dust, ground Buying them whole is a sure protection. Mustard is not often adulterated. The white is the more agreeable. Vinegar with SO3

SPICES. Spices, likewise, are of tropical origin. The same principles apply to them. They are often required by dyspeptics, & suit best in hot climates and in summer.

BEVERAGES. Leaving the condiments we next come to the beverages. Some kind of exhilarating beverage is taken all the world over from China to Paraguay, & from Labrador. There is a general demand,

mild refreshing

174

The Pepper Plant.

The three important peppers commonly found on the dinner table are white, black and cayenne, all natives of the tropics. There is a variety of the genus *piper* to which the white and black peppers belong —cayenne being a member of the genus *capsicum* called so, from a Greek word which signifies to bite. The variety is a great favorite with housekeepers and cooks, and has received from them the flattering name of "all-spice," as it combines in itself the flavor of cloves, nutmeg and cinnamon; it grows plentifully in Jamaica and other American islands, where it was first discovered by the Spaniards, who gave it the name of *Pimenta de Jamaica*. The French call it the "round clove."

Black pepper is cultivated in large quantities in Malacca, Java, and especially at Sumatra, the trade of these places being almost exclusively in these spices. A pepper-garden during the ripening of the pod is a lovely sight, being a large plot marked out into regular squares of six feet, in each of which are planted young trees called *chinkareens*, that serve as props to the pepper vines. When the prop has reached twelve feet high, it is cut off and the vines planted, two to each prop. A vine is three years in coming to maturity, and the fruit, which grows in long spikes, is three or four months in ripening. The berries are plucked as soon as ripe, and spread on mats on the ground to dry, by which process they become black and shrivelled, and are imported here as black pepper.

Piper nigrum

also in Jamaica

Capsicum Annuum
of S. Am. & W. Indies
" Fastigiatum
of Coast of Guinea.

brick dust

is the mild Capsicum, or red pepper being even used as a medi

MUSTARD. As to mu remarks, apply. In large quantities, like Sabbath it is an emetic. Sinapis Alba & Nigra, seeds.

VINEGAR. Vinegar is, by some, thought to be anti-scorbutic. If so, it is only slight.

ADULTERATIONS. All these substances are liable to adulterations. Black pepper often contains wood fibre, saw-dust, ground peas, &c. Red contains brick dust. Buying them whole is a sure protection. Mustard is not often adulterated. The white is the more agreeable. Vinegar with SO3.

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174

The Pepper Plant

The cayenne of commerce is the grain or seed of capsicum ground and mixed with flour, and then baked into little cakes in an oven; these are again broken up and mixed with more flour and placed in jars for sale. The tree or plant is very beautiful, and forms a great ornament to a garden, but it is very tender and requires much care. It is more pungent than either white or black peppers, and is often adulterated with logwood, mahogany sawdust, and red lead; this latter can, however, be easily detected by placing a spoonful carefully in a glass of water, when, should it contain any red lead, it will from its specific gravity, quickly drop to the bottom, while the cayenne will sink but slowly.

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of Coast of Jamaica.

brick dust

Piper Nigrum —

is the milder of the two. Capsicum, or red pepper, is usually rather too strong, being even used as a medicine.

MUSTARD. As to mustard the same remark applies. In large quantities, like general Salicylic it is an emetic. Sinapis Alba & Nigra, seeds.

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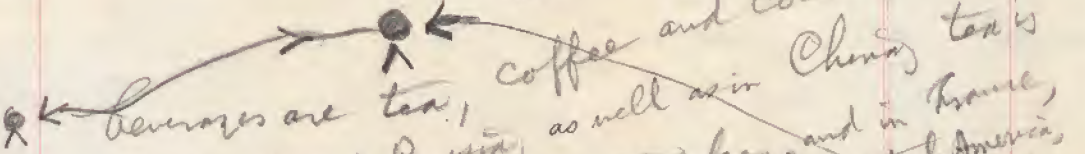

The most extensively used beverages are tea, coffee and cocoa. In England, Holland and Russia, as well as in China, tea is principally drunk; in the East, including Turkey, and in France, Germany & the United States, coffee; in Italy, Spain & Central America, Cocoa. In the U. States, over 200 mill. pounds of coffee are annually (1868); of tea, over 30 million pounds. (2) next,

(3) Has already been partially naturalized in this country — (Sp. Bonwell) & upon the mar — in Virginia — Others since in Asia, up to 35° N. Lat.

W. of Rocky mountains, in California

In S. Carolina now (1871) successful & in Tennessee

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the coloring matter. There was once
COLORING MATTER. alarm lest this should be poisonous.
But Prussian blue, and indigo, are

176

(2)

STIMULANTS AND NARCOTICS.—A recent German treatise on stimulants and narcotics estimates that infusion of coffee leaves is used by two million persons, Paraguay tea by ten million persons, chicory, either pure or mixed with coffee, by forty million persons, cocoa, either as chocolate or in some other form, by fifty million persons, and coffee by one hundred million persons. Betel is chewed by one hundred million persons, hashish is chewed or smoked by three hundred million persons, and opium is used by four hundred million persons. Chinese tea is drank by five hundred million persons, and tobacco is smoked, chewed or snuffed by the greater part of the inhabitants of the world.

extensively used

cocoa. In

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But Prussian blue, and indigo, are

HOW THE DIFFERENCE IS CAUSED.

COLORING MATTER.

TEA.

Lo Yu, a learned Chinese who lived before the 10th century says of *tea*—"It tempers the spirits and harmonizes the mind; dispels lassitude and relieves fatigue; awakens thought and prevents drowsiness; lightens or refreshes the body and clears the perceptive faculties." The rapid increase in the use of this beverage throughout Christendom indicates that the views of the enthusiastic Chinaman are being rapidly adopted.

The tea tree grows from three to five feet high, and sometimes much higher; the leaves are from two to three inches long, and half an inch broad.

The pleasant taste and delightful scent for which tea is so highly prized, are developed by the roasting which the leaves undergo in the process of drying. For *green teas* the leaves are heated in shallow pans over a brisk wood fire almost immediately after they are gathered; they are then thrown upon a table and rolled with the hands; lastly they are put again into the pan and quickly dried, being kept in rapid motion by the hands of the workman. Thus prepared they are of a dullish green color, but become brighter afterward.

For *black teas* the leaves are spread out in the air for sometime after they are gathered; they are then tossed about until they become soft and flaccid, when they are thrown into heaps and allowed to lie for about an hour or a little more, undergoing a slight fermentation; they are afterward rolled upon a table in the form of a ball, to get out a portion of the moisture and at the same time to twist the leaves, and after being roasted in the pans and exposed for a few hours to the air and sun, they are then dried slowly over charcoal fires.

The produce of different districts varies in quality and flavor with the climate, the soil and the variety of the tea plant cultivated, as well as the period at which the leaves are gathered, and the mode of drying them.

John Francis Davis, for many years connected with the English Embassage in China, in his published works, says: "It is a general rule that all tea is *fine* in proportion to the tenderness and immaturity of the leaves. The finest black tea, called *pekoe*, consists of the spring buds as they begin to expand, an like manner the tender leaflets in the green tea districts are made into an expensive

UNIVERSALITY.

We may ... net it, yet ½ of th... some-thing every... ut in ebriating ... aving seems to show ... the system. In early life, however, the CHILDREN. same remarks apply to the beverages as to tea & pepper. It is only when a person grows up, when the chances are ten to one that he will not be ... that they should be often taken.

CHINESE TEA.

Chinese tea is the best. It is obtained from the leaves of two species, the thea viridis & bohea. It is grown in China, Assam, and Japan.

GREEN & BLACK.

As to green and black tea, there are two differences. One is that the green is made by ... the leaves young, and preparing them by a rapid process. The other is in the coloring matter. There was once

HOW THE DIFFERENCE IS CAUSED.

COLORING MATTER.

alarm lest this should be poisonous. But Prussian blue, and indigo, are

TEA.

Tea-Growing in Iowa.

[From the Denison (Iowa) Review.]

We have learned of a most important discovery, one that affects every citizen of our land, and one that will add immense wealth to our nation, and revolutionize one of our most important commercial trades. It is almost too important a one to be easily believed, being no less than that tea has been grown in Crawford county, and can be grown here in profusion, and fully as good, if not better, than that we now import. About eighteen months ago an elderly gentleman came to this place, looked around with [illegible] two to three inches long, and half did [illegible]

The pleasant taste and delightful scent for which tea is so highly prized, are developed by the roasting which the leaves undergo in the process of drying. For *green teas* the leaves are heated in shallow pans over a brisk wood fire almost immediately after they are gathered; they are then thrown upon a table and rolled with the hands; lastly they are put again into the pan and quickly dried, being kept in rapid motion by the hands of the workman. Thus prepared they are of a dullish green color, but become brighter afterward.

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UNIVERSALITY.

We may argue as we like against it, yet ¾ of the human race take some thing every day, to cheer and refresh without inebriating. This universal craving seems to show a demand in the system.

CHILDREN.

In early life, the same remarks apply to the beverages as to pepper. It is only when a person grows up, when the chances are ten to one that he will not be [illegible], that they appear to be taken.

CHINESE TEA.

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GREEN & BLACK.

As to green and black tea there are two differences. One is that the green is made by bleaching the leaves young, and preparing them by a rapid process. The other is in the coloring matter.

HOW THE DIFFERENCE IS CAUSED.

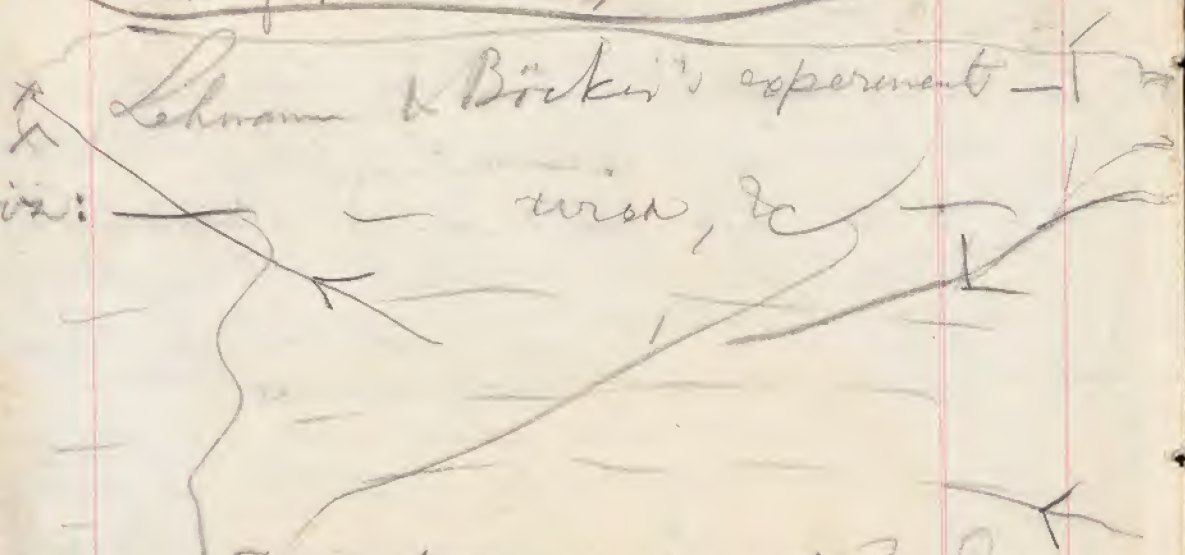
COLORING MATTER.

There was once alarm lest the coloring matter of green tea should be poisonous. But Prussian blue, and indigo, are

End of 9th Lecture, 1870.

Lehmann & Böcker's experiments —

viz: — urea, &c —



Does tea retard waste? Even as to Coffee it has been made doubtful by some experimenters.

~~Chinese quick mode of making tea. Strong stewed but when it is poured off.~~

End of 24th Lecture, 1872.

Dr J. Tyson, in a lecture published in Phil. Med. Times Dec. 13, 1873, asserts, without reference to authority, that tea & coffee, as well as quinine, atropia, digitalin & codeine all diminish uric acid & increase urea.

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BLACK TEA.

THEIN.

NOURISHMENT

COFFEE.

GLUTEN, STARCH, TANNIN OIL.

FLOWERED TEA.

Coffee retards the formation of tissue & makes food go further. It

On the variation in the amount of urea excreted under normal nourishment, and under the influence of tea and coffee, by M. E. Roux. The author found that these substances very largely increase the amount of both urea and chlorine voided in the urine, if they be taken after abstinence from them, but that when continuously used, the quantity gradually returns to its normal amount. Hence he regards this action as that of the washing out of accumulated urea.

to the sustenance.
sibility in this
stion is still open.
Pure thein is a poison.

Tea contains gluten, starch, tannin (shown by its coloring matter) and an aromatic oil on which its flavor depends. Only the best have a considerable amount of this.

The Chinese often add flowers to tea and some of these teas bring a high price, though much inferior to pure tea.

A year or two ago a company was

kind called *Loong-tsing* or *lyson pekœ*, which is highly esteemed by the Chinese, but is not brought to Europe, as it is so delicate and slightly fired as to spoil with the least damp."

These fine and superior teas are frequently refused for poorer grades because of the annoyance from the fine settlings in the cups; but this difficulty can be entirely avoided by the use of SHERWOOD'S TEA AND COFFEE STRAINERS, so highly prized by housekeepers.

Tea was first introduced into Europe early in the 17th century by the Dutch East India Company, but its use seems to have been very limited in England, even toward the close of the century, for Mr. Pepy, Secretary of the Admiralty, writes in his diary, Sept. 25th, 1661, "I sent for a cup of tea (a Chinese drink) of which I never drank before." In 1664 the British East India Company bought two pounds and twelve ounces of tea as a present for his Majesty. "In 1667 the Company issued their first order to their agent at Bantam to buy one hundred pounds of the best tea he could get." Until 1707, tea was sold in London at sixty shillings ($12.00) per pound, the East India Company holding a complete monopoly of the article until the year 1833.

In the year 1660 the British Parliament imposed a duty of eight pence per gallon of the beverage sold in the Coffee Houses—this duty remained until 1689, when a duty of five shillings ($1.00) per pound was imposed.

It is a remarkable fact that both tea and coffee were introduced [illegible] century.

[illegible] head "Fenland," the authors [illegible] marshy lands, in which the rivers Witham, [illegible] Ouse interlaced, including nearly 2,000 square miles, and roughly bounded by a line drawn from Lincoln by Bourn and Peterborough to Cambridge on the west; from Lincoln to Skegness on the north; from Cambridge and St. Ives to Brandon on the [illegible] and from Brandon to Lynn on the east (thus including [illegible]

End of 24th Lecture, 1872.

the most things used, and they are not injurious in the quantities in which they are used.

BLACK TEA.

Black tea is the best; green is too stimulating. The active principle

THEIN.

of tea is thein, isomeric with caffein a nitrogenous principle.

NOURISHMENT

Liebig says that these nitrogenous alkaloids contribute some nutriment; but they act more as stimulants.

COFFEE.

Coffee retards the formation of tissue. It makes food go further. It contributes to the sustenance. There is great plausibility in this view, but the question is still open. Concentrated thein is a poison.

GLUTEN, STARCH, TANNIN OIL.

Tea contains gluten, starch, tannin (shown by its coloring matter), and an aromatic oil on which its flavor depends. Only the best have a considerable amount of this.

FLOWERED TEA.

The Chinese often add flowers to tea and some of these teas bring a high price, — though much inferior to pure tea.

A few years ago a company was

Ceanothus in New Jersey Tea

Constituents of Tea.

1. Theïn; 1 per cent the minimum. 3½ maximum (Attfield 6?)
2. Volatile Oil; 1 per cent, maximum.
3. Gluten; 20 to 25 per cent.
4. Tannic Acid.
5. Starch, Gum, Fat, &c.

2 Chinas made in teapot or cup just when used.
2 Japan, in cup.
2 Egypt, often Coffee make in cup.

Coffee.

1. Caffein; ¾ per cent ~~minimum~~ (variable) (Johnston).
2. Volatile Oil & Empyreumatic Oil.
3. Gluten; 13 per cent.
4. Astringent Principle, like Tannin.
5. Fat and Extractives.

End of 9th Lecture

Cocoa.

1. Theobromin
2. Volatile Oil, chiefly empyreumatic.
3. Fatty Substance (cocoa butter) 56 per cent.
4. Starch.
5. Gluten, a considerable amount.

(see for board also, p. 196)

[End of 10th Lecture, 1873]

upon the general nervous system

exactly

COMBINED EFFECT OF CAFFEIN & VOLATILE OIL.

on the caffein, for tea and coffee have not the same effect. The effects depend on the combination of caffein & volatile oil.

If the theory be true, that coffee retards the waste of tissue, we can understand the instinct which leads working men to use it. Many take it three times

into England and Europe in the same decade of the same century.

The mode of making tea in Russia is as follows:

"The tea is put into a tea-pot, boiling water poured over it, and after standing two minutes, it is poured out into glass tumblers placed on glass saucers, sweetened with sugar and flavored with a slice of lemon. No milk is used. Being left to stand longer than two minutes is supposed to impair its flavor, by bringing out the coarser qualities of the leaves. Made this way it has a clear and sparkling appearance, when poured out into the tumbler."

used by coffee
wing the cause.
practice
This has been proved by the dyspepsia disappearing when the use of coffee was stopped.

NERVOUSNESS AND PALPITATION.

Nervousness and palpitation often produced ~~caused~~ by coffee. Pereira & Hammond think this is not so, ~~but they must be mistaken~~ Dr Johnson agrees with me. Dr Dio Lewis urges cold water.

VALUE OF COFFEE IN EMERGENCIES.

Coffee is of great value in emergencies.

SHIPWRECK.

In shipwreck it is better than grog.

ARCTIC REGIONS.

Drs. Kane & Hayes found it to be excellent in Arctic climates.

ARMY.

In the army, coffee has been found to be the soldier's best friend, as whiskey is his worst enemy.

For such uses it should be reserved;

[illegible] poor tea

Ceanothus in New Jersey Tea.

Constituents of Tea.

1. Thein; 1 per cent the minimum. 3½ maximum

which it is desired to separate the dregs.

TWO SIZES.

No. 1—1¾ INCH DIAMETER.
No. 2—2⅛ INCHES DIAMETER.

These Strainers are made

maximum.
In China made in teapot or cup just when used.
In Japan, in cup.
In Egypt, Coffee often made in cup.

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End of 10th Lecture, 1873

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If the theory be true, that coffee retards the waste of tissue, we can understand the instinct which leads working men to use it. Many take it three times a day.

DYSPEPSIA

Dyspepsia is often caused by coffee without the person knowing the cause. This has been proved under my own observation by the dyspepsia disappearing when the use of coffee was stopped.

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Nervousness and palpitation are often produced by coffee. Pereira & Hammond think this is not so, ~~but they must be mistaken.~~ Dr Johnstell agrees with me. Dr Dio Lewis urges cold water.

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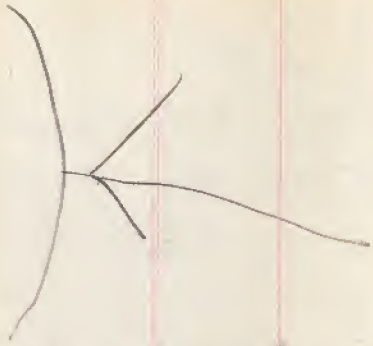
For such uses it should be reserved.



* Coulier of Paris proposes as a test ~~of the~~ the fact that pure coffee will float awhile on boiling water, from disengagement of CO_2; while chicory will sink. In buying the whole grains there can be little risk of being deceived. But even they are sometimes counterfeited! ~~But what of ground coffee~~

of South America.

x a small & pretty tree Cocoa is imported mainly from Caracas.

SUBSTITUTES FOR COFFEE.

CHICCORY.

DANDELION

ADULTERATION OF COFFEE.

ITS DETECTION.

COCOA.

PREPARATIONS.

CHOCOLATE

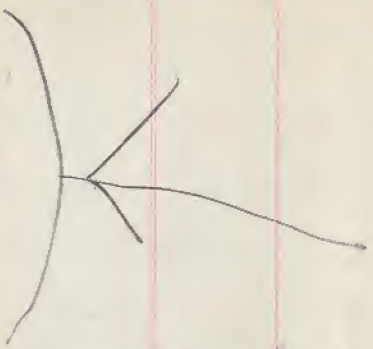
pounds h[illegible] always been rather a [illegible] ject of investigation with chemists, from the time of Berzelius down. S.

LABORATORY NOTES.

DESTROYING AMMONIC CHLORIDE. — Prof. J. Lawrence Smith recommends the use of nitric acid for destroying any excess of ammonic chloride that may be present in an analysis. The solution is evaporated to a small bulk, and then an excess of nitric acid added and the liquid gently evaporated to dryness. The chloride of ammonia passes off as protoxide of nitrogen and chlorine. This method was first published by the professor about twenty years ago, in his celebrated paper upon alkaline [illegible] but it seems to have been generally over-

[illegible] substitutes for coffee. [illegible] it is used intent- [illegible] as an adultera- [illegible] d here by the [illegible] wild about- [illegible] pretty blue flow- [illegible] a bad substitute [illegible] ½ coffee is quite pleasant, and according to the theory laid down, [illegible] more wholesome than pure coffee. What, we agree coffee! Coffee is frequently adulterated with chicory. The adulteration may be detected by steeping making a colored solution in cold water. It may also be discovered by the per- salts of iron not forming green with it, as with coffee.

Cocoa is obtained from the the- obroma cacao. The Mexican name is chocolate. The fruit is a kind of melon. It is prepared in several ways. It is roasted, whole, 2nd. the husk is stripped, (cracked cocoa); and 3rd. It is ground to paste and mixed with sugar, vanilla, cinnamon & cloves, these articles forming chocolate. There are also secondary preparations.



RYE COFFEE IN EUROPE. — A Strasburger named Beckmann-Oloffen has prepared a substitute for coffee by taking pulverized and roasted rye malt, mixing with it $\frac{1}{20}$ its weight of barley malt and some caramel, and exposing it to the vapor from roasting genuine coffee. In this manner part of the aroma always lost in roasting coffee is made use of to flavor the rye coffee. If we accept the conclusions of Aubert, that no caffeine is lost in roasting (see "Chemistry of a Cup of Coffee" in December number of this journal), the rye coffee has none of the poisonous properties of this alkaloid, and is preferable to the genuine. The discovery is said to have been already patented in England.

* Cond[illegible] test [illegible] the fact that [illegible] t while on boiling water, from disengagement of CO_2; while chico-ry will sink. In buying the whole grain there can be little risk of being deceived. But even they are sometimes counterfeited! ~~Product which is~~ Imitate coffee

of South America.

Cocoa's

* a small pretty tree \ Imported mainly from Caracas.

SUBSTITUTES FOR COFFEE.

There are [illegible] substitutes for coffee.

CHICCORY.

One [illegible] It is used intentionally [illegible] as an adulteration [illegible] here by the Germans [illegible] wild about [illegible] pretty blue flowers. [illegible] a bad substitute.

DANDELION

Dandelion [illegible] h's coffee, is quite pleasant, and according to the theory laid down, more wholesome than pure coffee. What, we acorn coffee!

ADULTERATION OF COFFEE.

Coffee is adulterated with chicory.

ITS DETECTION.

She may be detected by making a colored solution in cold water.

It may also be discovered by the persalts of iron not forming green with it, as with coffee.

COCOA.

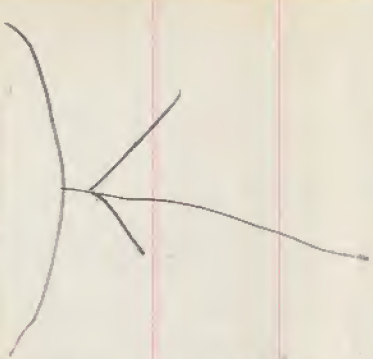
Cocoa is obtained from the theobroma cacao. The Mexican name is chocolate. The fruit is a kind of small cocoanut melon.

PREPARATIONS.

It is prepared in several ways. It is roasted, whole, 2nd. the husk is stripped, (cracked cocoa); and 3rd. It is ground to paste and mixed with sugar, vanilla, cinnamon & cloves, other articles forming chocolate: paste with starch & sugar.

CHOCOLATE.

There are also secondary preparations. as Baker's Broma & Prepared chocolate.



* Cou[illegible] test ~~the~~ fact that [illegible] at once while on boiling water, from disengagement of CO_2; while choco- -y will sink. In buying the whole grain there can be little risk of being deceived. But even they are sometimes counterfeited! ~~Powder which of spurious imitation offered~~

of South America.

× a small pretty tree Cocoa is imported mainly from Caracas.

SUBSTITUTES FOR COFFEE.

CHICCORY.

There are many substitutes for coffee. One of these is Chiccory. It is used intentionally by many people in Europe; and as an adulteration here. Continued ^ It was imported here by the Germans, and now grows wild about Germantown. It has a pretty blue flower. It is by no means a bad substitute.

DANDELION

Dandelion root ~~root~~ with ⅛ coffee, is quite pleasant, and according to the theory laid down, more wholesome than pure coffee. What we ~~acorn~~ coffee.

ADULTERATION OF COFFEE.

~~Coffee is adulterated with chicory.~~

ITS DETECTION.

The adulteration may be detected by chicory making a colored solution in cold water. It may also be discovered by the per-salts of iron not forming green with it, as with coffee.

COCOA.

Cocoa is obtained from the theobroma cacao. The Mexican name is chocolate. The fruit is a kind of small compound melon. It is prepared in several ways. It is roasted whole, ground into paste with starch & sugar. 2nd. The husk is stripped (cracked cocoa); and 3rd. It is ground to paste and mixed with sugar, vanilla, cinnamon & cloves, other articles forming chocolate; paste into tablets.

PREPARATIONS.

CHOCOLATE.

There are also secondary preparations as Baker's Cocoa & prepared chocolate.

Cooke (Princip. of Chem. Philosophy) says that caffein is methyl-theobromine; theobromin can be converted into caffein by substitution.

Humboldt

D'Orbigny, Von Tschudi, Weddell —

Coco is an edible starch, from a tree, used in tropical countries.

Cocoa-nut again different: fruit of Cocos nucifera of the tropics.

Cacao (Cocoa)
Coca (Erythroxylon)
Cocoa-nut (Cocos nucif.)
Coco — starch from a tropical tree, W. Ind.; Colocasia (araceae) farinaceous tubers; edulents

THEOBROMIN

Cocoa contains theobromin, a principle containing nitrogen. It nitrogenous proximate principles .56 per cent of this principle. It has also cocoa butter, a favorite application for bruises. Cocoa is therefore nourishing, but is heavier to the stomach than tea. When diluted with milk it is a very good drink, well adapted to many invalids. It is not as stimulating as tea & coffee.

COCOA.

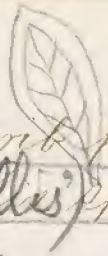
Cocoa is obtained from the dry cocoa, a shrub throughout South America. It is very powerful. When chewed with a little lime, it enables men to do without food & sleep for days. By it they are enabled to ascend steep mountains. These statements are made by Humboldt and others and although somewhat exaggerated, have no doubt some foundation. Excessive consumption of it is injurious. Coqueros - sots.

PROF. JACKSON.

Prof. Jackson imported some but was disappointed in their not producing the desired effect. It is doubtful if they really were the coca leaves. On the under-

*Truth, on all subjects, ~~at all times,~~ ~~Subjects~~, is the best thing, not only to hold but to advocate. ~~at all times~~ By asserting what Science cannot justify and experience does not prove, about alcohol, ultra men have rather hurt than helped the cause of temperance. Let us examine briefly yet carefully what has been proved to be true on the subject.

near the edge of the leaf.



side there should be a rib parallel to the mid-rib. In none of (Ellis') specimens, was this present.

RESINOUS & UNCRYSTALLIZABLE PRINCIPLES.

Coca contains an odoriferous resin and an uncrystallizable principle, also tannic acid. It is used by ten millions of people.

ARSENIC.

Its acquirers use may be mentioned by some people as a stimulant. In Styria it is eaten daily to improve their condition.

COACHMEN.

Coachmen sometimes give it to their horses, to make them sleek.

LADIES.

Ladies take it to give themselves a good complexion.

MOUNTAINEERS.

Mountaineers eat it to enable them to climb mountains. If its use is stopped suddenly, it endangers life. 2 or 3 grains a day are probably the largest amount ever taken. It must do harm in the end.

ALCOHOL

But the most important article of accessory food is alcohol. It is so powerful a agent that many think it would be a blessing if it could be annihilated; while many medical men would rather do without all the rest of the Materia Medica than it.

ITS POWER.

DIFFERENCE OF OPINION

Extreme teetotalism would sweep it out of existence. This is surely not a sound view. [Expand*

The composition of alcohol would lead

as already said,
We use much more food for force than for tissue. Those who die of starvation perish much sooner than they would from mere disability of the organs from waste of tissue. Every beat of the heart, every lifting of the chest in breathing, every peristaltic contraction of the stomach & intestines and consumes force

450 foot-tons daily, "internal work" more than 3 times external.

That the force used in muscular effort is not generated directly by the change of the muscle-tissue has lately been shown; and experiments recently made, as I have detailed, have lent color to the idea long entertained, that the amount of consumption of brain-force in mental labor exertion must vary (as measured by the amount of phosphates passed in the urine, from destruction of brain-substance). The blood probably, then, also furnishes nerve-force by the changes of its material as well as muscular force, & organic force for the general vital actions of the body.

SWINDLE IN THIS STATE.

formed to make tea from a Pennsylvania plant.* This plant does not contain a particle of thein.

LONG BOILING.

Long boiling drives off the aroma which does not contribute much to nourishment but gives a pleasant taste.

CHINESE PREPARATION.

The Chinese pour hot water on leaves in a cup and then drink it. For family use, the water should be boiling when the tea is put into it. Standing even without boiling, draws out more of the strength, but, unless covered, causes loss of aroma.

Lecture IX.

TEA, COFFEE AND COCOA.

The most universal beverages are tea, coffee, and cocoa. In England Holland and Russia, tea is used; in France, Germany, most in the United States coffee; and in Italy, Spain, and Central America, cocoa. Half the human race drink tea.

TEA { ENGLAND, HOLLAND, RUSSIA, CHINA.
COFFEE { FRANCE, GERMANY, TURKEY, EGYPT.
COCOA { ITALY, SPAIN, CENTRAL AMERICA.

Comes in 2 to 3½ hr or more

1869 There is in tea, three to four per cent or more of thein; about 10 grs. to an oz. By itself that quantity is poisonous.

THEIN.

TEA NOURISHING.

Tea is also nourishing with its gluten & starch but as we use it we get very little good of it.

End of 10th Lecture, 1867; & 1868

In America 1868

In Europe above 300 mill. lbs per annum

mill. pounds annually

Coffee was unknown to the Greeks & Romans. Some authorities assert it to be a native of Abyssinia; it is still found wild from Caffa in Arabia to the banks of the Nile. Writers say that its use was first suggested to the prior of an Arabian monastery, who was led by a goat-herd to the effect of excitement it produced on goats browsing on its berries. He thought it might help to keep his monks awake during their devotions; & found it available in that way.

A Turkish merchant (Dan. Edriki) introduced it into England 1652; Soliman Aga Turkish ambassador to France, into Paris, 1669.

Now, 100 million of men use it.

End of 8th Lecture on Alimentation, 1871

18th of the Course.

* Kola or Gurou nut of Soudan is in use there as in Brazil. Marketing either of the smaller or larger size. (Daniell)

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of a shrub about

Tasmanian tea is made from several plants. It is used by the people of Tasmania exclusively. (Family, Myrtaceæ).

Labrador tea is made from two plants, Ledum

~~Coffee is used by one hundred millions of men. The best is from Mocha or Arabia. The next is Java coffee.~~

It is the seed or berry of the Coffea Arabica plant. The trees bear for 20 years. Coffee improves by keeping.

~~Roasting alters the character and even the constituents of coffee.~~ It is probable that the oil after roasting is not the same as before roasting.

TEA

EA
ABICA

CHANGE WHICH TAKES PLACE IN ROASTING.

182

1872-3

The annual consumption of coffee, per head, in various parts of the world is as follows: England, 1⅛ pounds to each person; France, 2½; Germany, 4; Denmark, 5½; Switzerland, 6; Belgium, 8½; Holland, 10½; United States, 7 pounds; but in California, which appears to "beat all creation" in this as in so many other things, it amounts to 16⅔ pounds, or excluding Chinese and Indians, who do not drink coffee, to 20½ pounds. — F

th Lecture,
1867; 1868

Coffee was unknown to the Greeks & Romans. Some authorities assert it to be a native of Abyssinia; it is still found wild in Caffa & Arabia

Arabia

Coffee was unknown to the Greeks & Romans. Some authorities assert it to be a native of Abyssinia; it is still found wild in Caffa & Arabia the banks of the Nile. Writers say that its use was first suggested to the prior of an Arabian monastery, who was led by a goat-herd of the effect of excitement it produced on goats bringing on its berries. He thought it might help to keep his monks awake over their devotions; & found available in that way.

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Now, 100 millions of men use it

End of 8th Lecture on Alimentation, 1871
18th of the Course.

* Kola or Cola nuts of Soudan & Sierra Leone

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of a shrub about … Cudus,
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TEA

EA
ABICA

CHANGE WHICH TAKES PLACE IN ROASTING.

CONSUMPTION.

United States and British Provinces	218,000,000
Germany	185,000,000
France and Switzerland	125,000,000
Holland and Belgium	90,000,000
Great Britain	35,000,000
Scandanavia	30,000,000
Russia	15,000,000
Other Countries	15,000,000
Total	713,000,000

Before the Rebellion the use of coffee was rapidly increasing in the United States—the annual gain in consumption being about eight per cent., against two and a half in Europe; but during and since the war, in consequence of the high cost of the *real*, cheap substitutes have been and are extensively used, as must be manifest by the following statement of importations of coffee into this country for the years named:

Importations in pounds in		1850	145,000,000
do.	do.	1855	190,000,000
do.	do.	1859	264,000,000
do.	do.	1862	80,000,000
do.	do.	1865	104,000,000

Lecture, 1868

over

End of 8th Lecture on Alimentation, 1871
18th of the Course.

The Tartars
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Coffee leaves are
Abyssinia tea
of a shrub about 12
Tasmanian tea is
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even the constituents of coffee. It is prob-
able that the oil after roasting is not
the same as before roasting.

CHANGE WHICH TAKES PLACE IN ROASTING.

Greeley will be
Democracy, not constitutions, made twice
and whose wishes the Cincinnati Convention
has trented with disdain, must elect him if he
is elected at all. The Democracy, wholly un-
trammelled by the Cincinnati event, can view
results de-
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1862."

☞ Call

Pathological Lesions in Acute Dysentery which prevails at Sedan.—Dr. JOHN MURRAY presented to the Pathological Society of London, Oct. 18th, 1870. a number of specimens of intestines affected by acute dysentery, which he had brought from one of the hospitals near Sedan. The large intestines were greatly affected; the small intestines to a limited extent. The mucous membrane was swollen, tumid, deeply injected, and covered with minute aphthous patches. In the large intestine—especially in the colon and rectum—the mucous membrane was extensively and irregularly ulcerated, and patches, some not less than the area of an adult hand had completely sloughed away, leaving the muscular coat of the intestine bare. There was extravasation of blood into the submucous tissue. Peyer's patches were in some cases ulcerated, but superficially, and without deposit as in enteric fever, and the mesenteric glands and spleen were in these enlarged. The

CONSUMPTION.

United States and British Provinces	218,000,000
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do.	do. 1862	80,000,000
do.	do. 1865	104,000,000

During the last fiscal year, ending June 30th, 1871, there were imported into the United States 317,992,048 pounds of coffee, valued at $20,992,869, and 51,364,969 pounds of tea, valued at $17,251,617.

End of 8th Lecture on Alimentation, 1871
18th of the Course.

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CHANGE WHICH TAKES PLACE IN ROASTING.

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These Stra
and are st
1862."

☞ Call

two applications, made twice daily, continued from 10 to 30 minutes, his powers were restored.—Révue de Thérapeutique, Sept. 1870.

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Guarana a Substitute for Tea.—A late number of the "Pharmaceutical Journal" contains a paper on "Guarana," the seeds of a ~~sapindaceous~~ tree—the Paullinia ~~sorbilis~~—which does not appear to have hitherto entered into ~~European~~ commerce. The guarana-yielding tree is found abundantly in the Amazonas. The fruit is scarcely as large as a walnut, and contains five or six seeds, which are roasted, then mixed with water, and moulded into a cylindrical form, resembling a large sausage, and finally dried in an oven. Before being used it is grated, and then resembles cacao. Two spoonfuls of the powder are mixed in a tumbler of water, and this drink, is regarded as a stimulant and nervine tonic. Like strong tea or coffee, it is said to take away the disposition to sleep. The active chemical principle is an alkaloid that Dr. Stenhouse has shown to be identical with theine. Guarana contains ~~more than~~ double as much of this alkaloid as good black tea, and five times as much as coffee, the proportion being 5.07 per cent. in guarana.—Lancet, Oct. 22, 1870.

.....218,000,000
.....185,000,000
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..... 35,000,000
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Lecture X
1867; 9 1868
End of 8th Lecture on Alimentation, 1871
18th of the Course.

The Tartars ... adding fat- ... making a ... South Am... Paraguay ... of their, volat... gent princip...

Coffee leaves are made into a tea in Java. Ergot vine leaves in some wines. Panax Quinquefolium

Abyssinia tea, or Chat, is the leaf of a shrub about 12 ft. high. Cathe Edulis.

Tasmanian tea is made from several plants. It is used by the people of Tasmania exclusively. (Family, Myrtaceæ).

Labrador tea is made from two plants, ... Coffee is used by one hundred millions of ... The best is from Mocha in Arabia. The next is Java coffee.

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Roasting alters the character and even the constituents of coffee. It is probable that the oil after roasting is not the same as before roasting.

TEA

TEA ARABICA

CHANGE WHICH TAKES PLACE IN ROASTING.

The following tables, copied from the "American Cyclopedia," show approximately, at the time of publication, the amount of coffee, in pounds, produced by the several coffee-producing countries and also the consumption in others:

PRODUCTION.	
Brazil	400,000,000
Java	140,000,000
Ceylon	40,000,000
St. Domingo	40,000,000
Cuba and Porto Rico	25,000,000
Sumatra	25,000,000
Venezuela	25,000,000
Costa Rica, British West Indies and Mocha	18,000,000
Total	713,000,000

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Lecture, X
67; 9th 1868

X Soliman Aga, Turkish Ambassador to France introduced it into Paris 1669.

over

first suggest

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End of 8th Lecture on Alimentation, 1871
18th of the Course.

Soliman Aga Turkish Ambassador to France, into Paris, 1669;

Now, 100 millions of men

* Kola or Cola nut of Africa has been used by Negroes for centuries.

The Tartars boil it for a long time, adding fat- and salt & other articles, thus making a nourishing drink. 20 or 30 cups a day.

In South America, the leaves are taken. Paraguay or Paraguay tea, has about 1¼ percent of their, volatile oil, gluten, & an astringent principle. It is a holly-like plant; Ilex Paraguayensis.

Coffee leaves are made into a tea in Java.

Abyssinia tea, or Chat, is the leaf of a shrub about 12 ft. high. Catha Edulis.

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CHANGE WHICH TAKES PLACE IN ROASTING.

~~But as original volatile oil & ...~~

The original volatile oil of green coffee is in smaller amount than the aromatic oil 1/100 in tea, 1/50000 in coffee. The mode of preparation of the beverage with effects upon the system. coffee is no doubt influential. More coffee at a time used than tea — the former is the stronger hot infusion of ...

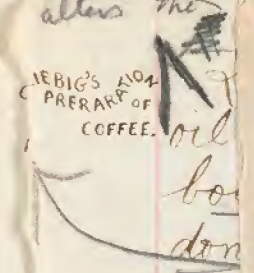
For persons in ~~full health~~.

Coffee probably acts most upon the ganglionic & Spinal nervous system:

Tea more in proportion on the brain,

Some constitutions feel coffee much more injurious than others. Sanguine temperament most, or sanguine-nervous. The nervous when exhausted bears it well. Bilious temperament feels it least.

Roasting (...) alters the



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EFFECTS OF COFFEE.
EXCITING, INCREASES CIRCULATION, ANTI-SOPORIFIC.
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pitation caused by coffee. [illegible] that coffee is not a desirable drink.

Lehmann's experiments on the excretions showed that coffee caused a decrease in urea. This fact has an important bearing on medicine & diet.

The effects of coffee in retarding tissue-change do not depend altogether

Peirsonne is said to have proved that in roasting coffee, half its caffein is lost, or at least transformed into methyl-amine ($C_4 H_5 N$). Giving a solution of methylamine to patients, he found it to increase arterial tension, and sometimes to cause irregularity of pulse. (Brit. Foreign Medico-Chirg. Rev. Oct. 69)

Aubert denies the loss of caffein in roasting coffee.

~~ol and aromatic, &~~
~~from roasting~~

than in tea
in coffee is ~~1/100~~ 1/100 in tea,

de of preparation of the be
Stimulates & refreshes the whole system.
Educational. More coffee
is the stronger hot infusion /

~~bably~~ acts most upo
inal
nervous system:

Tea more in proportion on the brain,

Some constitutions feel coffee much more injurious than others. Sanguine temperament most, or sanguine-nervous. The nervous when exhausted bears it well. Bilious temperament feels it least.

Roasting alters the

LIEBIG'S METHOD OF PREPARATION OF COFFEE.

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CAFFEIN

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VOLATILE OIL.

EFFECTS OF COFFEE.

EXCITING, & INCREASES CIRCULATION, ANTI SOPORIFIC.

INCREASES PRESSURE OF THE HEART.

PALPITATION.

UREA.

pitation caused by coffee. It shows that coffee is not a desirable drink.

Lehmann's experiments on the excretions, showed that coffee causes a decrease in urea. This fact has an important bearing on medicine & diet.

The effects do not depend altogether

(1) Mocha Coffee best —
Java small; dark yellow
Next, Java, larger pale yellow
Rio for Brazil, grayish or
bluish gray
Coffee the seeds or berries of Coffea Arabica, the
Coffee tree, for 8 to 20 ft in height
South Coast Arabia, one of the Comoro
a tree will bear for 70 years.
The fruit is red, like cherries, when ripened.
The grains inferior when kept [illegible]
[illegible]
Liberian Coffee – another species?

Tea more important, on the brain,
Some constitutions feel coffee much more
injurious than others. Sanguine temperament most,
or sanguine-nervous. Nervous when exhausted bears
it well. Bilious temperament feels it least.

Roasting (which should never be burning — as that chars & partly destroys) alters the flavor & actually destroys the chemical character of coffee.

LIEBIG'S AID IN PREPARATION OF COFFEE.

Liebig prepares coffee so as to keep its oil unchanged. He advises roasting ¾ and boiling it. Just before the boiling is done, put in ¼ unroasted.

CAFFEIN

Coffee contains caffein, isomeric with theine, but in a little larger proportion. It also has volatile oil which is more powerful than that of tea.

VOLATILE OIL.

EFFECTS OF COFFEE.

The effect of coffee on the system is at first an agreeable excitement. It increases the circulation. When we want to keep awake, there is nothing more effectual. of Bernard,

EXCITING, INCREASES CIRCULATION, ANTI-SOPORIFIC.

It has been found by experiments, that coffee increases the pressure of the heart more than any other substance. This may explain the palpitation caused by coffee. It shows that coffee is not a desirable drink.

INCREASES PRESSURE OF THE HEART.

PALPITATION.

Lehmann's experiments on the excretions, showed that coffee causes a decrease in urea. This fact has an important bearing on medicine & diet.

UREA.

The effects do not depend altogether

Perhaps some other ingredients whose natural action may be not well understood. (as before said) Prepare coffee from the seeds, more strength of material is obtained than in making tea of the leaves. I believe tea is the more of a cerebral & coffee a ganglio-spinal stimulant.

Depression an hour or two after breakfast; sense of impending calamity or loss —

The famous clerical writer of England, Sydney Smith, thought that coffee, for the time at least, "inspired the understanding." For as Mackintosh, a fine thinker & writer, the same opinion; but they were neither of them physiologists.

Coffee good for epileptics. Coherema.

Probably for advanced cases chiefly, if the observation be correct.

COMPOSITION OF ALCOHOL.

us to suppose that it was is food almost only for force. It has no nitrogen, but carbon, oxygen, and hydrogen. It also contributes to the fatty tissue. If added may by these elements something nitrogenous it assists the having formation of tissues.

HOW FAR IT WILL SUPPORT LIFE.

One can live longer on alcohol & water than on water alone. A woman under my care lived 2 weeks on brandy & water! Cornaro, wine daily. See Austin.

EFFECTS OF ALCOHOL.

The first effect of alcohol, is exhilaration. It increases the hilarity of the drinker.

EXHILERATION.

Dr Johnson said, he very honestly that he did not & would not like to be deprived of his daily glass of wine at dinner. The exhilaration is not an exaltation, it is debasing of intellectual power.

Dr Johnson.

EXHILERATION DEBASING NOT EXALTING.

the reverse. An old proverb says. "When the wine is in, the wit is out." The reason why men laugh more at a dinner with wine is because they are in a mood to be easily amused. Speeches made at dinners, have usually been best, when the dinner was a cold water one; although those where the wine table produce more laughter & applause.

SPEECHES.

INTOXICATION.

The next state is intoxication; a phrenzy, in which the drinker is beyond out of his own control.

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Dr Hh 225 & 226

For Board

Physical Effects of Alcoholic Excess.

Delirium Tremens

Gout

Chronic Alcoholicism

e.g. – Cirrhosis of liver – Fatty Degeneration of Heart –
Atheroma of arteries – Bright's Disease of Kidneys, &c.

Alcoholomania –
other Insanity –
Impairment of health of offspring.

Symptoms:

Yet gout is uncommon in the Rhine region.

French wines (Bordeaux) more arthritic? (Mrs Hirschfeld).

Verdict first call it a stimulant, but an inebriant narcotic.

Austie Dow assent to the common use of language in regard to it. So do Parkes and B. W. Richardson. It is either a food, according to the mode & amount of use.

[End of 11th Lecture, 1873.]

COMA.

The last stage of fall is coma, or dead-drunkenness. The pupil is dilated; being opposed to opium, in which it is contracted.

PUPIL DILATED.

DELIRIUM TREMENS.

Delirium tremens is an effect of continued excess. This is often fatal, often at the first attack; more frequent in the second than third.

GOUT.

Another effect is Gout. Alcohol stimulates digestion and assimilation. Too much nitrogenous food may be digested. The oxidation of nitrogenous matter is not sufficient. Thus uric acid is formed in excess, and, in being thrown off in the joints of the toes causes gout.

ITS CAUSE.

The strongest alcohols do not cause gout; it is mainly the wines & beers.

GENERAL DETERIORATION OF TISSUE.

When no Bright's disease is produced, there is often a deterioration of all the organs of the body; as liver, heart, &c.

(II)

SMALL DOSE.

Alcohol is stimulating to the circulation, and to the nervous system.

LARGE DOSE.

In large doses it is oppressive and narcotic. There is a great difference between a large and a small dose. The importance of proper doses, is much

End of 10th Lecture, 1870.

Is alcohol appropriated, or passed through unchanged? (Experiments (Lallemand) pro & con. Oxidation (Duchek). Partly appropriated & partly decomposed. Varying with amount & circumstances. When narcotism occurs, no appropriation. It is, I think, probable, that the conditions in which alcohol does good in disease are, those in which excessive rapid oxidation is going on; as in the over-combustion, the pyrexia, of low fevers. Then, the carbon & hydrogen of the alcohol, given in small amounts, may be oxidized, saving the blood & tissues; but if the amount of alcohol be more than can thus be used, — it remains awhile in the blood as alcohol, & narcotizes the brain.

In health, alcohol, in large or even moderate doses lowers the temperature of the body. (Wunderlich, &c) 1° in 15 min from 1 to 2 pints beer, lasts 1 or 1½ hour.

[Sanny Watson]

Tea and Coffee increase temperature.

Examples: opium, & bitters.

neglected. Dr is of the utmost consequence in using stimulants.

Alcohol retards the change of tissue. Dr. Hammond, who tried it on himself, found that less u[rea] were given off under regulated daily [illegible] his re-laxation desirab[le] kinds of change. let [illegible] tion, of muscle or br[ain] a of the system. Stim[ulants] cohol makes th[e] s; al-2nd. Passive wa[ste] sleep & wakefulb[ess] even in some numbers alth; shown by thei[r] is end of the wine[glass] the This waste is o[f] sickness. This [is] like morphia, y[ou] up?

When this wa[ste] is of-ten the case as[ked] health, stimulants may explain the proper use of tea & coffee and alcohol.

Therefore, there is a limited proper place for alcohol,

ALCOHOL RETARDS CHANGE OF TISSUE.

ACTIVE CHANGE. causes up and increases waste

PASSIVE CHANGE.

EXCESSIVE WASTE.

End of p. 2 of Lecture, 1872.

End of 10th Lecture, 1870.

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ACTIVE CHANGE

PASSIVE CHANGE.

Hanley says Alcohol lessens uric acid increases

Lecture, 1872.

When this ... len the case ... health, stimulants ... This may explain the ... use of tea & coffee and alcohol

EXCESSIVE WASTE.

End of 23rd

Therefore, there is a ... place for alcohol,

10th Lecture, 1870.

[illegible] ...ested, or passed through ...ervants (Lallemand) pro... ...chek). — Partly agreed & ...ying with amount & circumstan... ...ns, no appropriation. It ...at the conditions in which al... ...so are, those in which excess of ... ox; as in the over-combustion, by ... -rexia) of low fevers. Then, the carbon & hydrogen of the alco... -hol, given in small amounts, may be oxidized, saving the blood & tissues; but if the amount of alcohol be more than can thus be used, — it remains awhile in the blood as alcohol, & narcotizes the brain.

In health, alcohol, in large or even moderate doses lowers the temperature of the body. (Wunderlich &c) [Sanny Watson]

Tea and Coffee increase temperature.

1° in 15 min from 1 or 2 pints beer, lasts 1 or 2 hours.

Schultzens, Dupre' & Anstie are admitted by Parkes to have essentially refuted Lallemand about non-destruction of alcohol (asserted by L.) in the body. [Sir Richardson, Lancet, Apr. 6, Apr. 13, 1872.]

Examples: opium — & others.

neglected. Dr's of the utmost consequence in using stimulants.

ALCOHOL RETARDS CHANGE OF TISSUE.

Alcohol retards the change of tissue. Dr. Hammond, who tried it on himself, found that less urea and carbonic acid, were given off. The question is, is this retardation desirable under regulated daily portions of it.

ACTIVE CHANGE.

Huxley says alcohol lessens urea and uric acid, increases fat

two kinds of change. 1st- [illegible] action of muscle or [illegible] tear of the system. Alcohol makes [illegible] this; al- the stage of excitement [illegible] aster; & though not later.

PASSIVE CHANGE.

2nd. Passive [illegible] n in sleep & wakefu[illegible] health; even in some hyb[illegible] as is shown by th[illegible] at the end of the w[illegible] beginning. This waste is [illegible] sickness. Thi[illegible] l retards, like morphia.

When this [illegible] as is often the case [illegible] her feel- health, stimulants tempt headache. This may explain the proper use of tea & coffee and alcohol

Therefore, there is a limited proper place for alcohol,

Lecture, 1872.

End of 25th

EXCESSIVE WASTE.

The members and attenders of Twelfth Street Meeting, are invited to a READING MEETING, to be held at M. C. Cope's, No. 1312 Filbert Street, on Third day Evening. Second month, 13th, 1872, at 7½ o'clock.

Drs. E. Smith, Snow & Davis; Lallemand, Perrin & Duroy & Percy are quoted as asserting in experiment that alcohol is not directly oxidized in the blood.

Böcker & Moleschott, find it partly excreted unchanged, & partly "burned" in the blood.

Duchek, that it is changed to aldehyde & so given off.

Pettenkofer, that CO_2 in breath is not much increased.

10th Lecture, 1870.

...irculated, or passed through ...ssues (Lallemand &c) pro... ...leschott), — partly excreted & ...ying with amount & circumstances, ...cumstances, no appropriation. It ...that the conditions in which al... ...ases are, those in which excessive ...ing on; as in the over-combustion, the ...-rexia, of low fevers. Then, the carbon & hydrogen of the alco... ...hol, given in small amounts, may be oxidized, saving the blood & tissues; but if the amount of alcohol be more than can thus be used, — it remains awhile in the blood as alcohol, & narcotizes the brain.

In health, alcohol, in large or even moderate doses, lowers the temperature of the body. (Wunderlich, &c) 1° in 15 min. [See my Watson] from 1 or 2 pints beer, cider, 1 or 2 tablespoonfuls

Tea and Coffee increase temperature.

Examples: opium, & bitters.

neglected. Dr. of the utmost consequence in using stimulants.

ALCOHOL RETARDS CHANGE OF TISSUE.

Alcohol retards the change of tissue. Dr. Hammond, who tried it on himself found that less urea and carbonic acid, were given off under regulated daily portions of it. The question here is, is this retardation desirable? There are two kinds of change. 1st That produced by action of muscle or brain, the wear & tear of the system. Stimulants increase this; alcohol makes the pulse beat faster; & in the stage of excitement muscular activity & fatty waste increased; though not later.

ACTIVE CHANGE.

Hartley says alcohol lessens urea and uric acid

PASSIVE CHANGE.

2nd. Passive waste; which goes on in sleep & wakefulness, sickness or health; even in some hybernating animals; as is shown by their weighing less at the end of the winter than at the beginning. This waste is variable. It is more rapid in sickness. This it is that alcohol retards, like morphia, quinine, coffee, &c. Toning up?

Lecture, 1872.

EXCESSIVE WASTE.

When this waste is excessive as is often the case as very few have perfect health, stimulants [illegible] This may explain the proper use of tea & coffee and alcohol.

End of 25th

Therefore, there is a limited proper place for alcohol,

✱ and Physicians have a serious responsibility in advising it ——— to do it always judiciously, & with proper limitations ——— so as not to do harm.

Examples — Carstairs — & London Dispensary advice. Whisky Pastor now; London Saturday Review about Ladies in England (1870-1).

End of 11th Lecture 1867 ×

"Medical Declaration" of 300 British Physicians 1871. 10th, 1868. 10th, 1869.

See Report of Am. Assoc. of Sup. of Inebr. Asylums — for 1872. [9th ed alimentation, 1871 - 19th of the Course. End of 12th Lecture, 1873]

Is intemperance a crime, or a disease? Mostly both. ×

1 in 11 (population) paupers; — (& pauperism is more due to drunkenness than anything else)

1 in 11 ~~in England~~ in England?

1 in 100 in U. S. ? —

The late Dr Anstie, one of the editors of the London Practitioner, & author of a very able book on "Stimulants & Narcotics" asserts the opinion that from one ounce to an ounce and a half of alcohol taken in some form daily, will be beneficial as an aid to adult in health. I do not agree with him. Healthy adults whatever they may tolerate, need none & are best off in health without any alcohol at all. Dr Parkes advocates

even out side of the sick-room. It is safe to not

DR. RAY'S ADVICE.

Dr. Ray says that ~~a~~ man ~~should~~ take alcohol unless advised by a physician

FALSE ARGUMENT.

~~Teetotlers often say alcohol does no good. This only injures their cause, as the only safe way is truth.~~

Precisely the same principles apply to alcohol as to coffee; but as it is a much more disturbing agent, the risk attending its use is far greater. ~~It should be used more carefully at almost all times, and requires to use it, a necessity.~~

COLD WATER THE NATIONAL DRINK OF THE U.S.

The United States is the only highly Civilized country where cold water is the national drink. In Southern Europe wine, and in Northern Europe, beer & spirits, take it's place. In Paris 7 gallons wine per annum, beer a year it has been. Beer is used in Germany and England, very largely.

EXCESS IN ENGLAND.

In the latter country there is a lamentable excess taken. Quite lately, there has been an improvement. (Tom Brown at Oxford" mentions a pint of beer as a students daily allowance.) young college

AMERICANS TEMPERATE

The Americans are on the whole the most temperate people in the world. ~~Drinks in London Europe~~ Only those who are advanced in years,

* and Physicians have a serious responsibility in advising it — & do it always judiciously, & with proper limitations — so as not & do harm.

Examples — Carstairs — & London Dispensary advice, whisky fashionable now; London Saturday Review about Ladies in England (1870-1).

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Is intemperance a crime, or a disease? Mostly both. ×

1873

some say 1 in 20 population paupers, — (& pauperism is more due to drunkenness than anything else)

1 in 11 ^ population ~~paupers~~ in England?

1 in 100 in U. S.? —

End of 12th conclusion.

* The late Dr Anstie, one of the editors of the London Practitioner, & author of a very able book on "Stimulants & Narcotics" assents the opinion that from an ounce to an ounce and a half of alcohol taken in some form daily will be beneficial as an aliment to an adult in health. I do not agree with him. Healthy adults whatever they may tolerate, need none — are best off in health without any alcohol at all.

even out side of the sick-room.

DR. RAY'S ADVICE.

Dr. Kay says that a man should not take alcohol unless advised by a physician.

FALSE ARGUMENT.

~~Teetotalers often say alcohol does no good. This only injures their cause, as the only safe way is truth.~~

Precisely the same principles apply to alcohol as to coffee; but as it is a much more disturbing agent, ~~requires to use it~~ the risk attending its use is far greater. ~~be more careful at~~ a more mature age.

COLD WATER THE NATIONAL DRINK OF THE U.S.

The United States is almost the only highly civilized country where cold water is the national drink. In Southern Europe wine, and in Northern Europe beer, spirits take its place. In Paris 7 gallons wine per soul, in a year it has been. Beer is used in Germany and England largely.

EXCESS IN ENGLAND.

In the latter country there is a lamentable excess taken. Quite lately there has been an improvement. (Tom Brown at Oxford" mentions a pint of beer as young college students daily allowance.)

AMERICANS TEMPERATE PEOPLE

The Americans are on the whole the most temperate people in the world. ~~Rules in Southern Europe~~

Only those who are advanced in years,

Foreign Beverages

Malays &c.	"Arrack" from	Rice or Areca
Greeks &c.	Raki	Rice
Hindus	Toddy	Cocoa-nut Palm.
"	Murwa	Millet
Arabians &c.	Bozeh	Millet
Russians	Quass	Rye
Poles, &c.	Vodki	Potato
Chinese	Samshoo	Rice
Japanese	Sacie	Rice
Feejees	Ava	Long Pepper.
S. Americans	Chica	Maize
Mexicans	Pulque	Agave
"	Aguardiente	~~Agave~~ Cane
West Indians	Guarapo	~~Sugar Cane~~
Tartars	Koumiss	Mare's Milk.

WHO SHOULD USE ALCOHOL.

or have feeble constitutions, or are overworked, or underfed, can with safety take alcohol ~~either only in carefully and properly regulated quantities.~~

But, as physicians, we cannot ~~declare~~ X. look into the matter yet farther.

USE OF ALCOHOL IN SEVERE BURNS, HEMORRHAGE, TYPHUS & TYPHOID FEVERS, AND CONSUMPTION.

It is admitted that alcohol is indispensable in the case of severe burns, hemorrhages, typhus & typhoid fevers, and consumption. ~~How it acts we cannot tell~~ but it has an important bearing on both hygiene and medicine.

OLD LAW OF STIMULATION.

The old law of stimulation was that every stimulant is followed by a corresponding depression. If this were true stimulants would have to be banished altogether. Thus suppose a man to be 1° above death and takes a stimulant which raises him to 2°. If this law were true he would fall back to 0° or death. This is ridiculous, of course.

ILLUSTRATION OF ITS ABSURDITY.

PHYSIOLOGICAL EXAMPLES.

There are physiological reasons against the theory of stimulation. The first breath which a child takes is caused by cold air stimulating the surface. The circulation of the blood, respiration,

There are, indeed, four different effects,
not differences in degree of the same action,
which alcohol may produce, according to the
Dose and circumstances of its administration.

1st simply stimulant; with small doses.

2nd what Dr. Chambers calls an anæsthetic action;
more exactly, if there were such a word,
hypæsthetic. (Describe & illustrate.
Against excessive friction or worry — overfatigue
& in some cases of insomnia, &c.

3d " inebriant - intoxicating; i.e. causing an active,
& either foolish or violent temporary delirium;
which we call being drunk.

4th hypernarcotic; producing dead-drunkenness or Coma,
which may be fatal at the time.
Children are sometimes so poisoned to death
(Such a case in 1876 in Phila.)

and in fact nearly every action in the body is carried on by stimulation. Therefore this ~~law~~ has been necessarily modified and we now have

NEW LAW.

The new law; all stimulation of an organ beyond the normal degree, is followed by a depression corresponding to the excess: but a stimulation which carries only up to or towards the normal line or level

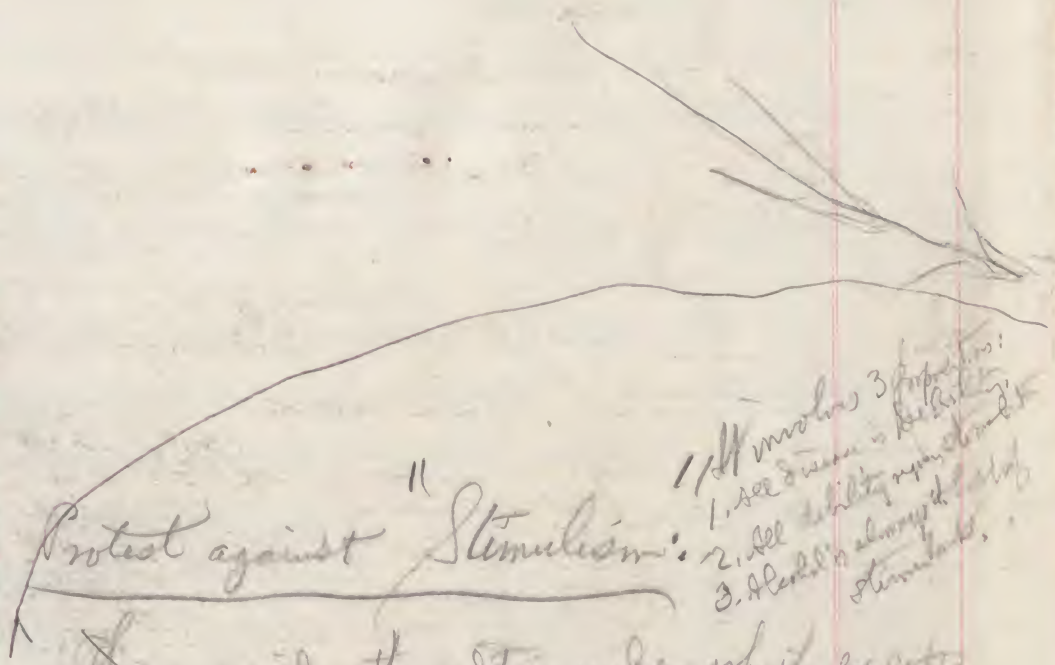
HAS ALCOHOL A TENDENCY TO PRODUCE INTEMPERANCE?

An important question in hygiene is, is there any inherent property in alcohol, to produce intemperance? does the sick man who takes alcohol, always incur the danger of becoming a drunkard? It has no such inherent tendency. This depends on excess, growing out of the depression consequent on excess.

WHAT IT DEPENDS ON.

There are those, who though not sick, are weak, and these need stimulants. In typhus fever, the patient is fed every hour or two or three days or weeks together, on alcohol, and yet on recovering feels no disposition to become intemperate. In this condition, it does not produce intoxication. A young officer brought to the hospi-

TYPHUS FEVER.



Protest against "Stimulation".

It involves 3 propositions:
1. Use & value of Alcohol as a stimulant.
2. Its liability to abuse as a stimulant.
3. Alcohol is always a dangerous stimulant.

Now consider the conditions under which, exceptionally, dilute or mild alcoholic beverages may sometimes be properly advised, outside the sick room:
1. Old age, 2. Feeble constitutions, original or from cause, 3. Overworked - unable to feed up well - feeble
4. Convalescents, dyspeptics, &c.

Always regulate quantity, — & never forget the dangers.

tissue were greatly thickened.

He stated that it was presumable that the animal had been slaughtered within a brief time after being infested. It had been ascertained by experiment that from one to three months must elapse before the capsules become opaque.

Portions of this same ham, which had been cured and smoked, were eaten uncooked by a family at Harrisburg, all the members of which were taken violently ill upon the third day, one of the cases terminating fatally in less than a week's time. The communication received did not state what symptoms the patient had presented, but generally, in those rare cases where the disease proves so rapidly fatal, there is violent gastro-enteritis, with more or less pronounced peritonitis. Usually trichinosis assumes a much slower progress, giving rise to intense muscular pains and œdema, simulating muscular rheumatism.

Dr. DE F. WILLARD presented the specimens from a case of *chronic tubercular pleurisy with large effusion*, from A. B., male, 28 years of age; admitted to the Presbyterian Hospital May 23, 1874. Walked to the hospital, and did not complain of much fatigue. The only history gleaned from him was to the effect that he had had what he called an attack of "pneumonia" (undoubtedly pleuro-pneumonia) about three months previously, which detained him in bed for several weeks. His health had been failing for some months previous to this attack, but since that he had been totally unfit for work, although he has not been under a physician's care. On admission, his left thoracic cavity was found full of liquid, but no further examination was made that night. The next day he was seized with violent dyspnœa, and died within less than twenty-four hours from the date of admission. Just before and immediately subsequent to death a large amount (a pint) of thin frothy fluid was

until he was given al-
like opium under severe pain in this re-
d by the system, its
s are lost. A certain
tleman would, after
take alcohol for a
and when the neces-
ould have no inclina-
cases I have often known.
alcohol is excess to one
health. Nor is it by any means always
needful in disease
e err in addressing this
They often ruin men
by bad advice. They should remem-
ber their responsibility. Toddies - Stimulism.

QUANTITY, FREQUENCY, TIME OF AND DRINKING.

The elements of danger of intemper-
ance are quantity, frequency, age, and
time of day. The signs of excess are
an increase in the pulse a flushed
face, and an effect on the brain.

SIGNS OF EXCESS.

QUANTITY.

The danger from quantity does not
increase simply, but as the square
of the quantity. If a man takes
two glasses the danger of intemperance

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The leading physiologist in B.

ALCOHOL.—As most of our readers know, Dr. Carpenter, of London, has been a most staunch advocate of "temperance." But he has been too much for himself, and has furnished Dr. Parkes an account of his own case for publication:

"After having been a water-drinker during all the earlier part of my life, and enjoying a fair measure of health and vigor, I broke down about ten years ago under the pressure of excessive work, and, besides a local disorder, I then suffered from a total loss of appetite and enfeeblement of the digestive power, so that my whole system was undergoing a rapid lowering. My medical friends recommended me powerful tonics, combined with three glasses of sherry daily, and on this regimen I improved even more rapidly than they expected, and was able in a month's time to enjoy a tolerable dinner, gradually reducing the quantity of wine I took with it. They had at first expected that I should be obliged to winter in the south of Europe; but I rallied so fast that this idea was soon abandoned, and I was able to return to my work after a three-months' absence. Ever since that time I have taken a couple of glasses of light claret with my dinner, and this fluid suits me very well. I often reach home very tired, and feeling as if I could eat nothing, and I am certain that without this little 'fillip' I should eat nothing. The question lies, therefore, in such cases, between the use of the slight alcoholic stimulus and the inadequate nutrition of the body, and I cannot myself doubt which is the *least* of what I am willing to admit to be *two evils*."

Upon this Dr. Parkes says, "Coming from such a man, this evidence seems to me indisputable, and, coupled with that derived from watching patients with weak digestions, I think may be called conclusive."

al, was delirious until he was given alcohol. It is just like opium under severe pain in this respect. When needed by the system, its poisonous effects are lost. A certain consumptive gentleman would, after a hemorrhage, take alcohol for a couple of weeks, and when the necessity was over would have no inclination for it. Similar cases I have often known.

CASE OF A CONSUMPTIVE

EXCESS IN HEALTH.

Every drop of alcohol is excess to one who is in perfect health, nor is it by any means always needful in disease.

ERROR OF PHYSICIANS

Physicians often err in advising the use of alcohol. They often minister by bad advice. They should remember their responsibility. Toddies - Stimulism.

QUANTITY, FREQUENCY, TIME OF AND DRINKING.

The elements of danger of intemperance are quantity, frequency, age, and time of day. The signs of excess are an increase in the pulse, a flushed face, and an effect on the brain.

SIGNS OF EXCESS.

QUANTITY.

The danger from quantity does not increase simply in proportion to, but rather as the square of the quantity. If a man takes two glasses the danger of intemperance

Age appears to make this difference, — that early in life there is the least need of stimulation, with the greatest susceptibility to its action. There is therefore increased danger of intemperance, in the young, when they are exposed, by excess, to it. Young drinkers go, usually, more rapidly from bad to worse than older ones. Early intemperance nearly always makes a short life.

Anacreon must have drunk his wine in praise of wine before his brain was ~~invaded~~ inundated with it. Epicurus, I believe, appreciated the enjoyment of wine well & destroyed it by taking too much.

As to the different effects of doses: in health, one glass of light wine may refresh a weary man, — will exhilarate, & three make him merry; six may render him foolish, twelve, ~~as~~ one for the time, and more quite stupid as a sot: while the frequent repetition of even moderate indulgence is almost certain final ruin. For hygienic effect, in debility, no alcoholic dose ought to be felt at all, as alcohol, — but only as food; by incorporation and refreshment.

will be four times as great as if he took only one.

FREQUENCY. The same applies to frequency. If a man takes too much once a year, there is little risk; if once in six SAME RULE. months, there is not much; once in 3 months, it looks dangerous; if once a month, it is more so; if once a week, it is probable that soon he will retire every night in unconsciousness.

TIME OF DAY. The time of day has some effect. Old topers often moralize to younger, telling them not to take anything before 12 o'clock. This is based on experience.

DOSAGE. The importance of dosage must be properly estimated. When a patient is advised to take alcohol, the dose should be always stated. A hygienic dose should HYGIENIC DOSE not be more than half the convivial quantity. Half a glass of wine, or half a tumbler of ale, is enough at first.

Intemperance as a disease has received

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* I. T. Trowbridge — "vagabonds" —

"I would sell out heaven for something warm
To ease this horrible inward sinking."

→ Contains Code —

* In the spring of 1867 ~~I had the pleasure of being~~
~~at Harrisburg at the time of the passage~~
was passed
a bill by our Legislature giving additional force
to the laws which enable the control of the person
of a habitual inebriate & to give State
lands for his restraint, Care and reform.
~~He found~~ Dr Joseph Parrish of this city
is at the head of the movement for establishing
a retreat for the purpose, for which a property
has been bought some miles from our city. It
WAS to open ~~before long~~ in 1867, & is now in
full operation, at Media; the "Sanitarium" —
"Moral treatment" plan at Boston: "facing the music!"

(2 forms — Paroxysmal & constant)

DIPSOMANIA OR OINOMANIA OR METHOMANIA.

many names, dipsomania, oinomania and methomania. It is a fearful malady in its effects and power. Its cure is almost a miracle, and after its apparent cure relapse is apt to occur. The only way of preventing it is by an inebriates' retreat. There is one in New York state and one in Boston, one near Media in the State of Pa. has been granted for a similar institution here, one in Baltimore, one in Chicago. The value of such an institution is great. Long seclusion is generally necessary. The most solemn promises are often otherwise quite unavailable.

OBJECTION.

Several objections have been urged against such institutions. In the first place, it is said that it could never be made large enough, but because we cannot do good to all, it is no reason why we should not do good to as many as we can.

WHO SHOULD AVOID ALCOHOL.

There are two classes who should never take alcohol in any form. 1st. Those who have ever been intemperate, 2nd. Those who have a hereditary tendency to intemperance. Such families undoubtedly exist.

End of 13th Lecture, 1873, — 40 minutes long, by accidental lateness.

Pasteur, however, in 1872, asserted before the French Academy the discovery of a fungoid vegetation parasitic on the skins of the grapes, whose presence in the juice is the cause of the fermentation. It is his theory that all kinds of fermentation & putrefaction are produced by the presence & influence of minute vegetable or animal organisms, — analogous to the yeast-fungus — torula or saccharomyces cerevisiæ. A difficult question to settle. see next page

But 1 lb diastase can ferment 1000 lbs starch.

Beers are usually grain fermented liquors —
Wines mostly fruit-juices fermented —
Spirits are always distilled from either of these.

DIFFERENT ALCOHOLIC BEVERAGES.

We now pass to the different kinds of alcoholic beverages. They are classed as beers, wines, and spirits.

BEER. WINE. SPIRITS.

Beers are made by fermentation, from the saccharine juices of fruits; wines, by spontaneous fermentation; and spirits by distillation from wines. When grape sugar ferments it is converted into alcohol and carbonic acid

BEER.

Beer is usually made from malted barley. The grain is allowed to germinate. By means of heat the starch & gluten are changed. The former is converted into dextrin & then into sugar, and the gluten is converted into diastase which acts on the sugar. One hundred pounds of starch will take one of diastase. At the proper moment the germination is checked by heating. It is then bruised, put into hot water at about 160° to 170° and some extra starch added. It is boiled, hops added. It is then cooled rapidly to about 54°–64° and allowed to ferment for 6 or 8 days.

ITS MANUFACTURE.

End of 26th Lecture, 1872.

Pasteur's theory / vital action

Yeast-plant / torula — or

mycoderma vini
mycoderma aceti, &c

Liebig — "catalysis" / or imparted molecular movement.

(Both?)

But vitality probably not necessary

Schwann, Cagn., Mitsch., Schroeder, Helmholtz's exper. with interposed membrane, which prevented transfer of particles of action.

Does vital force ever control chemical change or action generally, in material outside of the organism?

In experimentation, whenever we exclude effectually the germs of veg. & anim. life, we must, almost always as a result, by the same means, exclude organic matter, dead & putrefactive, in the atmosphere. Which exclusion, in each case, is the cause of the absence of fermentation or putrefaction in the material under trial? It cannot yet be positively affirmed,

bier

LAGER.

Lager is made by a slower fermentation at a lower temperature. It contains some turpentine, also from the casks in which it is stored. all kinds of beer making

MINUTE VEGETATION.

A minute vegetation appears in the ferments. Its cells are at first 50,000 of an inch in diameter. We do not yet certainly know its connection with fermentation. Saccharomyces Cerevisiæ

INGREDIENTS OF BEER.

The alcoholic strength of beer varies much; WATER. alcohol (from 1 to 1½ per cent in some home made small beers). In porter 3½ - 5½ per cent; brown-stout 5½ - 6½; strong ale. 5½ - 10. Beer al-ways contains ALCOHOL. sugar which turns SUGAR. sour when it is kept. It has also a little GLUTEN. soluble gluten from the malt, and SALTS. salts as sulphates, phosphates & chlorides. There are about 13 grs. of solids to a pint. Beer has from 4 to 8 per cent of nutritive matter (milk has at least 12 per cent.). LUBULIN. Lubulin, the principle of hops is in it. Bitter, tonic.

It is somewhat intoxicating & soporific, and (narcotic). It is sometimes said that lager will not intoxicate. It produces a stupid when taken in excess, state.

FREE ACID

Beer also contains free acids, acetic, carbonic, tannic, lactic, & malic,

* Philadelphia & Reading ales are of terrible good ~~than it was 10 years ago.~~ (1874) English ale is rather better yet; Bass' pale ale for exportation — & Oxford ale — rather famous.

Hygienic Dose of ale: for an adult man, not accustomed to it, but using it on account of debility, continued — from 2 to 4 fluid ounces, — i.e. from a small wineglassful to ½ tumblerful, at dinner or bed-time. For a woman, from 1 to 3 fluidounces. Lager beer, hygienic dose 3 to 5 fluidounces.

Lager in this county now often has in it Cocculus Indicus & other adulterations; so testified in a case in court by a brewer, in 1873 or 1874.

HAY FEVER.

THOMAS C. HOOVER, M. D., of Bellair, Ohio, writes to the *American Journal of Medical Science* as follows: —

"Miss M. E., who had been suffering from recurring attacks of catarrhus æstivus for eleven years, consulted me as to what means she should try for relief. The disease had uniformly recurred on the [illegible] and had a mean duration of [illegible]

in all about-

HYGIENIC BEER.

To be hygien[illegible] should be clear and [illegible] ring no acid taste.

Ale and other beers are the best forms of alcohol for convalescence and dyspepsia; but their qualities vary with the manufacture.

GOUT.

Excess of beer, especially without exercise tends to cause gout. Delir. tremens seldom.

ALE BETTER THAN PORTER.

With most people, ale agrees better than porter. The latter differs in strength. It is colored by charred malt or burnt sugar. Brown stout is a strong porter.

LAGER.

Lager is good if pure, as any beer should be.

ADULTERATIONS.

The adulterations of beer, are

CARB. OF SODA.

first, carbonate of soda. It is added to old beer.

SULPHURIC ACID.

2nd. Sulphuric acid to clarify it.

COCULUS INDICUS.

3rd. Cocculus Indicus berries, which are often used to destroy vermin, but are used as an adulteration.

GRAINS OF PARADISE.

4th. In England, grains of Paradise are used. They are narcotic & injurious.

STRICHNIA.

5th. It is said, wrongly, that strychnia is used in England.

Russell Parker's dem W. —

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Picric Acid in Lager Beer.— Some of the German brewers have found that picric acid is a cheap substitute for the wholesome bitter of the hop, and are making the poisonous picrate of ammonia do duty for lupulin. Whether the trick has been tried in this country we do not know, but it is well to state a means of detecting it which Pohl has discovered. Unbleached sheep's wool is steeped for a few minutes in the suspected beverage, and assumes a canary-yellow color if picric acid be present.

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Lager in this county now often has in it Cocculus Indicus & other adulterations; so testified in a case in court by a brewer, in 1873 or 1874.

of solids (left on evaporation).

in all, about 30 grs. to a pint.

HYGIENIC BEER.

To be hygienically good, beer should be clear and not very bitter; having no acid taste.

Ale and other beers are the best forms of alcohol for convalescence and dyspepsia; but their qualities vary with the manufacture.*

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Excess of beer, especially without exercise tends to cause gout. Delir. tremens seldom.

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With most people, ale agrees better than porter. The latter differs much in strength. It is colored by charred malt or burnt sugar. Brown stout is a strong porter.

LAGER.

Lager is as good if pure, as any beer.

ADULTERATIONS.

The adulterations of beer, are first, bicarbonate of soda. It is added to old beer. 2nd. Sulphuric acid to clarify it. 3rd. Cocculus Indicus, berries, which are often used to destroy vermin, but are used as an adulteration.

CARB. OF SODA.

SULPHURIC ACID.

COCULUS INDICUS.

GRAINS OF PARADISE.

4th. In England, grains of Paradise, a sort of cardamom; anonum melegueta, are used. They are narcotic & injurious.

STRICHNIA.

5th. It is said, wrongly, that strychnia is used in England.

Prescott Parker Derry N.H.

Caouim in Brazil (Indians
Name & juice of a tree (Milk tree?
or Cow-tree —

Boozy?

Dr. Parkes says it would not pay to add it.

CURIOSITIES OF BEVERAGES.

[Curiosities of fermented beverages require but brief mentioning.

MAIZE.

In S. America, maize beer is made either like our malting or by chewing the grain, and spitting it out, allowing the salivary diastase China mascada to ferment it.

PECULIAR PROCESS.

Sometimes it is made in company, all spitting into one receptacle. Also made of rice, peas, pineapple juice.

FEEJEE ISLANDS.

In the Fiji islands the same thing is done. It is remarkable that two peoples so distantly removed, should have the same custom. A company of girls makes the king's ava, every morning. (page 117.)

BOOZEH OF TARTARS.

Another curious drink is the boozeh (Murwa of) of the Tartars. This name is also made of millet applied to an Arabian drink in Abyssinia, Pea Abyssinica

LACTIC ACID.

Lactic acid is abundant in millet beer. ~~It resembles milk beer.~~ The Himalayans draw this through a pipe after the manner of sherry cobbler. Paraguay tea is taken in the same way. In S. America.

End 11th Lecture, 1870

[End 10th Lecture on Alimentation, 1871 – 20th of the Course.]

Methaglin ?

QUASS. The quass of the Russians, is a strong unpleasant drink, made from rye.

KOUMISS. Koumiss is made from mare's milk, which has more sugar than cow's. It contains lactic acid. Given now in phthisis.

WINE. Wines are made by spontaneous fermentation. Sometimes this is very rapid; in grape juice begins in ½ an hour in summer in the open air.

CIDER. Cider, being formed by spontaneous fermentation of apple juice, is a wine. Malic acid is its characteristic. It sours soon and is not a very reliable drink. It should not contain more than 9 per ct. of alcohol. It is not nutritive to any extent. Brandy is often added to make it keep.

PERRY. Similar remarks apply to perry, made from pear juice. It is said to be sometimes used to adulterate grape wine.

MEAD * Mead is a pleasant, mild drink made from honey.

GRAPE. But the most important wine is that made from grapes. The quality varies much depending on many causes.

Currant-wine may be made very good, & so may that from some other fruits.

the best of those

Best judges do not find them yet to equal imported from Europe. Prime Blot, in an article in the Galaxy, a few years ago asserted their equality; but I fear his French quality, disposition to please Americans, there got the better of his Critical taste. Met some Catawba wine, now made (1873), is Kiedesheimer really very fruity & good, and of a beautiful color. 1875, excellent. Catawba wine is made in Emesee Valley, N. Y. state.

Wines fermentation best at about 65° Fahr.

A gentleman who had visited the Islands of Madeira told me that there Mr J. Baker told me that in the Madeira which he [illegible] "Madeira quality is "aged" or made to imitate the old, by heating it in casks, by stoves, to 150° or 160°, for months at a time. 6 months of heating are said to be equivalent to 6 years of keeping. To a critical taste, however, such wines have some smoky taste, not quite up to the best old wine.

Pasteur, now recently has proposed, a rapid process of maturing wines by heat. I believe it is simply exposing it for a day or two to a still higher temperature than that before mentioned as in use.

Pinean a champagne grape.

CAUSES OF VARIATION.

KIND OF GRAPE.

CLIMATE.

SOIL.

LOCALITY.

COTTON & TOBACCO.

Johannesberg & Steinberg

SEASON.

CULTURE.

TIME OF GATHERING.

FERMENTATION.

TEMPERATURE.

SKINS.

RED & WHITE WINES.

The Riesling grape is a favorite in Europe;

1st. It depends on the kind of grape. Certain wines cannot yet be made here. Columbya, Diana, Catawba, Isabella, Delaware, Concord, some varieties here. A warm climate and a certain soil are necessary. Our country is not deficient in these. California and Ohio produce the best American wines. Locality has some effect. Just as the best cotton can be raised on the coast of S. Carolina, only, and the best tobacco in two places so with grapes. Johannisberg grapes are raised on 100 acres of land. Steinberg grapes on a small tract also.

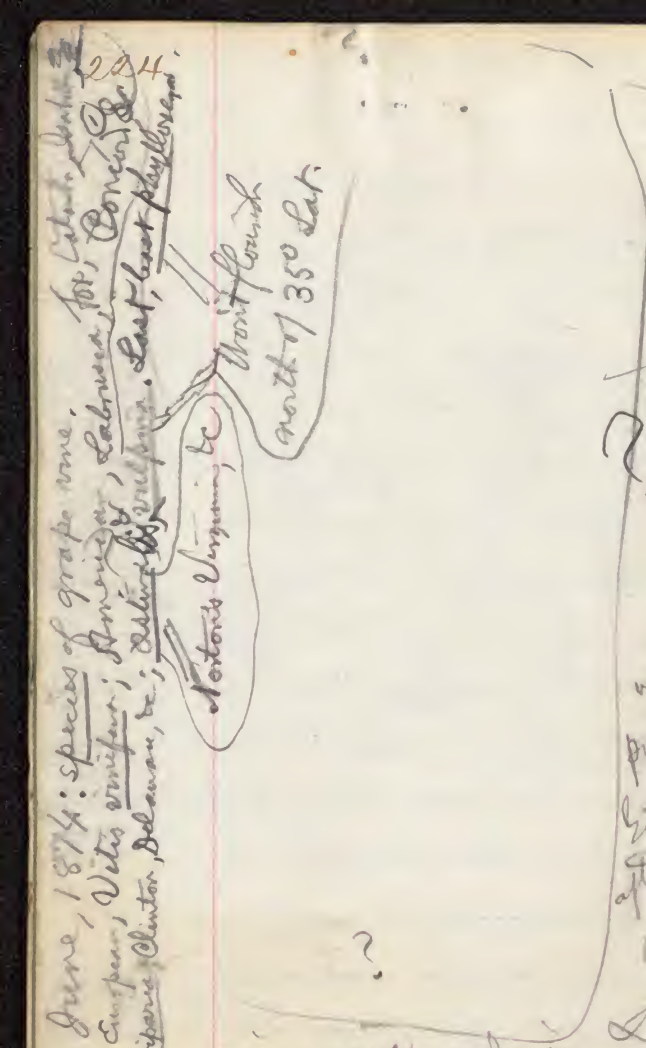
2d Season and culture make a difference.

4th Time of gathering:— should be just when ripe; as citric acid is in unripe grapes. Mode of fermentation, temperature at which it is made, temperature at which it is kept, &c. all affect it.

—o—

Lately, it is said that they have been able to make new wines old by a quick process.

Grape skins all wines do not gain by age; the best gain the most by keeping. contain tannic acid and give a red color to wine. In Italy, red and white wines can be



2014.

1st

② ↑

③ Johannisberg Riesling,

40 to 100 acres only — wine for an
nett £6 or £7 000 — simple bottled only
purchaser there — for 5 florins —
Even by Napoleon in my lifetime —
afterwards Austria Emp.r & Prince Metternich —
two bottles of it sold (1872) from cellars
of (late emperor) Napoleon III.

Muscadine wine, made in Languedoc & Roussillon, France,

Sc. Pop. Science Monthly, June, 1874: species of grape vine,
European, Vitis vinifera; American, Labrusca, Riparia, Rotundifolia, &c;
Clinton, Delaware, &c; Aestivalis, Cordifolia. East, East Louisiana.

End of 12th Lecture 1867
11th 1868.
11th 1869

It is estimated that the annual production of wine in the United States amounts to about 20,000,000 gallons. California, the largest producer, yields one-half this amount, 5,000,000; Ohio about 3,500,000; New York, 3,000,000; Dr.

...o & Rosso,

...ce being caused
...ne wines are red
naturally so.
~~spoil, wine is im-~~
...ing. ~~Good wines improve, the bad get ready for it.~~
...alyses show the fol-
...ions of alcohol to be

WINE IS IMPROVED BY KEEPING.

PER CENT OF ALCOHOL.

PORT		24 per cent.	15–25
SHERRY		25 "	
MADEIRA		22 "	
MARSALLA		25 "	
BORDEAUX		18	6–16 "
CLARET			
BURGUNDY		3 – 14 "	
CHAMPAGNE.		8 – 13	5–15 "
MOSELLE		8. – 13	"
RHINE.		6.7 – 16	½–15 "
HESSIAN	Hessian Wine	10.2 – 15 "	
HUNGARIAN	Hungarian	9. – 15 "	
ITALIAN.	Italian	14. – 19 "	

(but is given on account of the name of the grape in France). Muscat wines are generally very sweet.

Sep. 1896
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Most celebrated wine grapes of the "Rheingau" — famous hock from Hochheim on East bank of the Rhine — Johannisberg, Rüdesheim, Erbach, Hattenheim, Marcobrunn, Steinberg, Hochheim.

Next after these Scharlachberger, Rüdesheim.

Burgundy wines, grown at Johannisberg produce a red wine: the best, as also the best of white wines.

Muscadine wine, make in

Languedoc & Roussillon, France,

1st

② ↑

③ Johannisberg vineyard, 40 & 100 acres only — wine famous until £6000 & 7000 — Single bottle purchased there — for 5 florins — Given by Napoleon to one of his Generals after ... 1000 bottles of it sold (1872) from cellars of (late emperor) Napoleon III.

End of 12th Lecture 1867
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It was recently estimated that the annual production of wine in the United States amounts in round numbers to 20,000,000 gallons. California, the largest producer, yields one-fourth this amount, 5,000,000; Ohio about one-sixth, 3,500,000; New York, 3,000,000; and Illinois each 2,500,000. In these six States and in this country, ... of, and shall entitle the owner to exemption for such property in all other places.

Changing Church Names.—In the Legislature of New Jersey, at its last session, an act was passed authorizing any church, incorporated by the laws of the State, to change its corporate name or title, and assume another name or title, by a resolution passed at a meeting of the trustees; such resolution shall be certified under its corporate seal, and proved in the same manner as deeds for lands are required to be proved, and, when filed in the office of the clerk of the county in which such church is situated, such corporation shall thereafter be known and may bring and defend actions and suits at law or in equity by such new name. The assumption of the new title, however, does not release said church from any debt or obligation previously incurred.

Gloucester City.—On Monday evening two men, named John Doyle and Edw. O'Har... abusing the slip-tender at the fe...

WINE IS IMPROVED BY KEEPING.

PER CENT OF ALCOHOL.

Xeres is from Vineyards from Cadiz

Constancia is from Cape of Good Hope.

Muscat or muscadel is not a local name, but is given on account of the name of the grape in France. Muscat wines are usually very sweet.

PORT	Po...	24 per cent.	15–25
SHERRY	She...	25 "	"
MADEIRA	Ma...	22 "	"
MARSALLA	Ma...	25 "	"
BORDEAUX	Bor...	18	6–16 "
CLARET			
BURGUNDY.	Bu...	3 — 14 "	
CHAMPAGNE.	Ch...	8 — 13	5–15 "
MOSELLE	M...	8. — 13	11 "
RHINE.	R...	6.7 — 16	5–15 "
HESSIAN	Hessian Rhine	10.2 — 15 "	
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ITALIAN.	Italian	14. — 19 "	

Xroso,

... being caused
... wines are red
naturally so.
~~port, wine is im-~~
~~proved by keeping. Good wines improve, the bad get worse by it.~~
... yses show the fol-
...ns of alcohol to be

Sup. 196 & 226

12 & 14

Most celebrated wine districts of the Rhine-gau —

THE NATIVE WINES produced in the United States are estimated in round numbers at twenty millions of gallons. California, the largest producer, yields one-fourth this amount, five millions; Ohio about one-sixth, three and one-half millions; New York three millions; Missouri and Illinois each two and one-half millions, and Pennsylvania two millions. In these six States are produced all the wines of the country, excepting about one million and one-half of gallons raised in smaller quantities in the other States. Wines are produced, however, in some quantity in nearly every State and Territory, 20,000 gallons a year being credited to New Jersey and 5000 gallons to Delaware. The annual value of our wine crop is about $14,000,000. 1873.

Most [illegible] Scharlachberger ..... Rheinstein, Burgundy-wine; grows at Assmannshausen produces a red wine; the best or most delicate white wine. [illegible]

Muscadine wine, made in Languedoc & Roussillon, France,

1st

(2)

(3) Johannisberg vineyard, 40 & 100 acres only — wine sold at auction worth £600 & £700 — Single bottles of pinkcastle then — for 5 florins — Given by Napoleon to one of his Marshalls' — after battle of Austr. Emp. & Prus. with — two bottles of it sold (1872) from cellars of (late emperor) Napoleon III.

End of 12th Lecture 1867
11th 1868.
11th 1869

Su Pop. Scuppernong, Isabella, Catawba, Delaware, &c.; Clinton, Riparia, Vitis aestivalis, Labrusca, Vinifera, Europeans, Vitis aestivalis, Labrusca, for Cabernet Sauvignon, Bordeaux &c

WINE IS IMPROVED BY KEEPING.

PER CENT OF ALCOHOL.

It was recent[ly] Thud[dr.] scient[ific] tainin[g] It seer[ms] wines the lir[ge] Greer a[nd] obtaine[d] tilleries which v[ary] termixt[ure] which, distille[d] the rea[dy] and a[ge] proof s[pirit] 27·8 ; S[herry] Malbe[c]

It is estimated that the annual productio[n] of wine in the United States amounts in round numbers to 20,000,000 gallons. Cal[ifornia] fornia, the largest producer, yields one-to fourth this amount, 5,000,000; Ohio about one-sixth, 3,500,000; New York, 3,000,000; [and] Illinois each 2,500,000. and In these six States country,

Marsala Sicily

Western Italy

Tokay (Buda,

in Hungary

Xeres in Spain

Verges from Catia

Constancia in Sou[th] Africa

Cape of Good Hope

Muscat or muscadel

is not a local name, but is given on account of the name of the grape in France. Muscat wine is usually very sweet.

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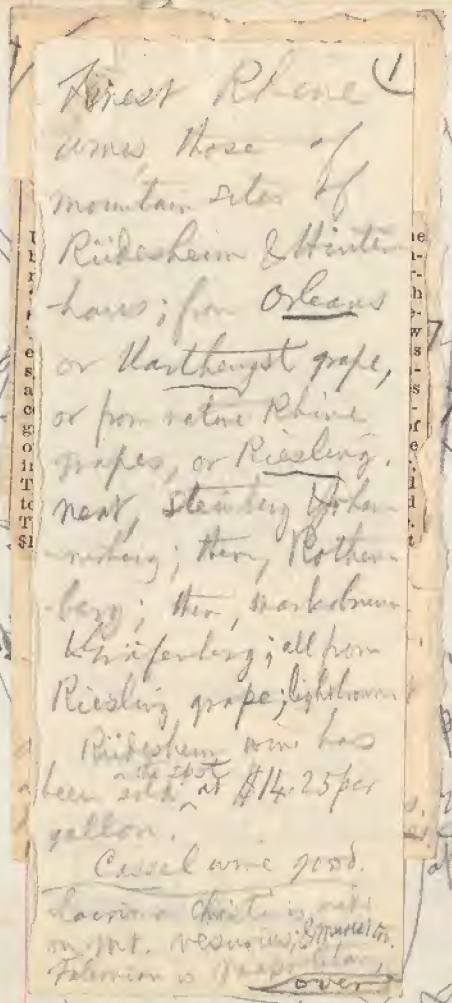
Sup. 196 & 226



(1)

Finest Rhine wines those of mountain sites of Rüdesheim & Hattenheim; from Orleans or Hartheyst grape, or from native Rhine grapes, or Riesling. next, Steinberg Johannisberg; then, Rothenberg; then, markobrunn Hochheimberg; all from Riesling grape; lightness

Rüdesheim wine has been sold at $14.25 per gallon.

Cassel wine good.

Lacrima Christi in vicinity of Mt. Vesuvius; Syracuse. Falernian is Campagna Lacrima Christi

over

Muscadine wine, made in

1874: species of grape vine, European; Vitis vinifera; American, Labrusca, Riparia, Clinton, Delaware, &c; Estivalis, Cynthiana. East, Gulf, Pacific slopes

See Pop. Science Monthly, June, 1874

1874

1st

(2)

(3) Johannisberg wine very—

40 to 100 acres only — wine so famous—

worth £6000 to £7000 — Single bottle sold

purchased there — for 5 florins —

given by Napoleon to one of his Marshalls—

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1 or 2 bottles of it sold (1872) from cellars

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Languedoc & Roussillon, France,

End of 12th Lecture 1867

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Thu... Dr. ... to ... rit. ... an ... ng ... E. ... ge ... s- ... d, ... a-

termixture of adventitious spirits. The samples which, the chief inspector states, were carefully distilled over by an officer of the department, and the results ascertained both by specific gravities and a well adjusted Sykes's hydrometer, yielded proof spirit as follows:—Reisling, 24·5; Muscat, 27·8; Shiraz, 27·8; Verdeilho, 29·0; Sheraz, 29.0; Malbec, 28·6; Carbinet, 27·5

& rosso,

...e being caused

...e wines are red

...naturally so.

~~...poil, wine is im-~~

~~...ng. Cook wines improve, the bad get rid by it.~~

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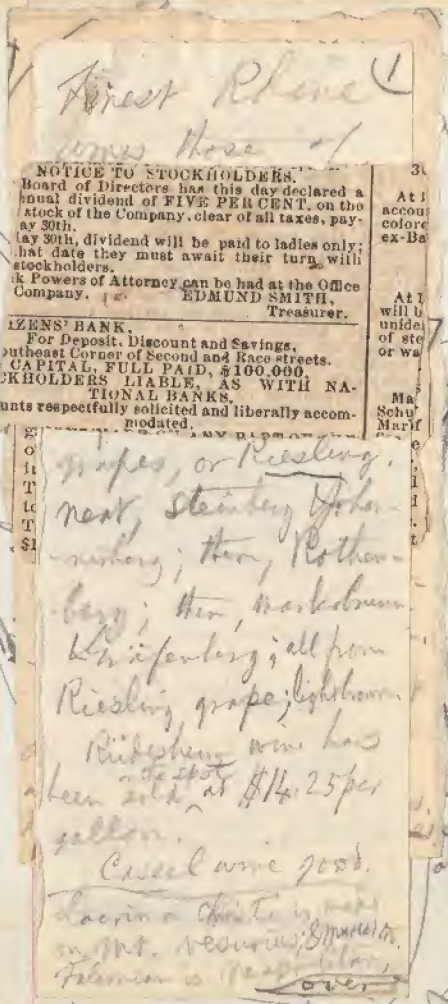
...alyses show the fol-

PER CENT OF ALCOHOL.

lowing proportions of alcohol to be in wines (by weight):

PORT	Port wine	16.6 – 24 per cent.	15 – 25
SHERRY	Sherry	16. – 25 "	"
MADEIRA	Madeira	16.7 – 22 "	"
MARSALLA	Marsalla	15. – 25 "	"
BORDEAUX CLARET	Bordeaux & Claret	7. – 18	6 – 16 "
BURGUNDY	Burgundy	7.3 – 14	"
CHAMPAGNE	Champagne	5.8 – 13	5 – 15 "
MOSELLE	Moselle	8. – 13	"
RHINE	Rhine	6.7 – 16	5 – 15 "
HESSIAN	Hessian Rhine	10.2 – 15 "	
HUNGARIAN	Hungarian	9. – 15 "	
ITALIAN	Italian	14. – 19 "	

Sup. 196 & 226



NOTICE TO STOCKHOLDERS.

Board of Directors has this day declared a nnual dividend of FIVE PER CENT. on the stock of the Company, clear of all taxes, pay- ay 30th.

lay 30th, dividend will be paid to ladies only; hat date they must await their turn, willi stockholders.

k Powers of Attorney can be had at the Office Company.

EDMUND SMITH, Treasurer.

IZENS' BANK,

For Deposit, Discount and Savings,

outheast Corner of Second and Race streets.

CAPITAL, FULL PAID, $100,000

CKHOLDERS LIABLE, AS WITH NATIONAL BANKS.

unts respectfully solicited and liberally accommodated.

Grapes, or Riesling,
next, Steinberg Johannisberg; then, Rothenberg; then, Markbrunn Klosterberg; all from Riesling grape; Lighthouse Rüdesheim wine has been sold at $14.25 per gallon.

Cassel wine good.

Racine Christie in market on Mt. Vesuvius; Emerald in Palermo is cheap.

over

Muscadine wine, made in

See Pop. Science Monthly, June, 1874: specimens of grape wine, European, Vitis vinifera; American, Labrusca, Vulpina, Clinton, Delaware, &c.; Native Cal. grapes, Sonoma, Los Angeles, Napa, Santa Barbara, San Luis Obispo, Sonoma, &c.

2284.

1st

(1) Forest Rhine

(2) Hock

(3) Johannisberg wine, 40 to 100 acres only — wine for sacrament worth £60 to £7000 — Simple bitter only purchased there — for 5 florins — Given by Napoleon to one of his Marshalls — Napoleon & Austria Emp. & Prince Metternich — 100 bottles of it sold (1872) from cellars of (late emperor) Napoleon III.

Languedoc & Roussillon, France.

End of 12th Lecture 1867

11th " 1868.

11th " 1869

It was recently stated in Australia by Dr. Thudicum that it was impossible, according to scientific theory, to produce a natural wine containing more than 26 per cent. of proof spirit. It seems certain, however, that the Australian wines contain a percentage of alcohol exceeding the limit fixed by Dr. Thudicum. Messrs. E. Greer and Co., of William-street, Melbourne, have obtained a report from the chief inspector of distilleries, on samples of Albury wines submitted, which were certified as being free from any intermixture of adventitious spirits. The samples which, the chief inspector states, were carefully distilled over by an officer of the department, and the results ascertained both by specific gravities and a well adjusted Sykes's hydrometer, yielded proof spirit as follows:—Reisling, 24·5; Muscat, 27·8; Shiraz, 27·8; Verdeilho, 29·0; Sheraz, 29.0; Malbec, 28·6; Carbinet, 27·5

& rosso,

e being caused
e wines are red
naturally so.
poil, wine is im-
ng. Good wines improve, the bad get sourer by it.

WINE IS IMPROVED BY KEEPING.

analyses show the following proportions of alcohol to be in wines (by weight):

PER CENT OF ALCOHOL.

PORT	Port wine	16.6 – 24 per cent.	15 – 25
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HESSIAN	Hessian Rhine	10.2 – 15 "	
HUNGARIAN	Hungarian	9. – 15 "	
ITALIAN.	Italian	14. – 19 "	

Sup. 196 & 226

80 CASES
nge Cake and Golden Tobacco.

ssrs. H. Jones & Co. will sell
ON SATURDAY,
Boxes Baking Powder
Cases French Brandy
Cases Huntley & Palmer's Biscuits
BY ORDER OF SHIPPERS.

Upholsterers and House Furnishers.
SATURDAY MORNING Messrs.
JONES & Co. will offer at Sale
FLOOR OIL CLOTHS,

Muscadine wine, made in

1st

②

③ Johannisberg wine says—
40 to 100 acres only — wine so dear
worth £60 to £700 — Imperial bottle only
purchased there — for 5 florins —
given by Napoleon to one of his Marshalls —
attended Austr. Emp. to Paris with —
100 bottles of it sold (1872) from cellars
of (late emperor) Napoleon III.

Languedoc & Roussillon, France.

End of 12th Lecture 1867
11th 1868.
11th 1869

Sea Pop. Seems Monthly, June, 1874: species of grape vine.
European, Vitis amifera; American, Labrusca, Vinifera, Cultivated, Domestic
riparia, Clinton, Delaware, &c; Catawba

of the same name, — bianco & rosso,
had, the difference being caused
by the skins. Some wines are red
from the juice being naturally so.

WINE IS IMPROVED BY KEEPING.

~~If it does not spoil, wine is improved by keeping.~~ Good wines improve, the bad get worse by it.

PER CENT OF ALCOHOL.

~~Old~~ Later analyses show the following proportions of alcohol to be in wines (by weight):

PORT	Port wine	16.6 – 24 per cent.	15 – 25
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ITALIAN	Italian	14. – 19 "	

" " " "

Sup. 196 & 226

STRENGTH OF SPIRITS.

Strength of Spirits.

Brandy,	50–60	per cent. alcohol
Whisky	50–60	" "
Gin	49–60	" "
Rum	50–60–77	" "

CHANCES OF LIVING.

Chances of Living.

Temperate		Intemperate
At 20 =	44.2 years	= 15.6 years
30 =	36.5 "	= 13.8 "
40 =	28.8 "	= 11.6 "
50 =	21.25 "	= 10.8 "
60 =	14.285 "	= 8.9 "

LENGTH OF LIFE AFTER BEGINNING INTEMPERANCE.

Average Length of Life after Beginning of Intemperance.

In Mechanics & Laborers	18 years.
Merchants & Traders	17 "
Professional men & of Ease	15 "
Females	14. "

See pp. 196 & 225.

Lecture XI.

CONSTITUENTS OF WINE.

The constituents of wine are besides alcohol & water Several.

SUGAR.

sugar, When there is little

DRY WINE.

sugar it is called a dry wine. The

TOKAY, PORT, CHAMPAGNE, MADEIRA, SHERRY, CLARET, MOSELLE, &c.

sweetest is Tokay wine. Port has about 16 grs. Sugar to a gallon; Champagne, 6–28 grs; Madeira, 6–20; sherry, 4–20; claret, Moselle, very little.

FREE ACID.

2nd. Free acid, racemic, tartaric, acetic, citric, tannic, carbonic, and fatty acids.

ŒNANTHIC ETHER.

Œnanthic ether (1 part in 4000) is present in wine. Bouquet but this also [illegible]; as there is something else which we cannot tell the nature of.

SALTS.

Wine also contains salts, as tartrate of lime, phosphate of magnesia.

FREE ACID.

The order of wines according to their amount of free acid, from the least to the greatest is: sherry, port, champagne, claret, Madeira, Burgundy, Moselle, and Rhine.

SHERRY, PORT, CHAMPAGNE, CLARET, MADEIRA, BURGUNDY, MOSELLE RHINE.

NOT NOURISHING.

Wine is less nourishing than beer. It has no gluten, no nitrogen

♀ Hygienic dose of wine, for debility, —
Madeira, Sherry, Port, about 1 fluid ounce; Claret or Rhine wines, — 2 fluid ounces. Champagne I would never advise for such use. It is the least friendly to digestion (in my opinion) of all wines, unless the driest kind of Rhine wines would come more artistically

. . . . .

× In London there are at least twice as many spirit-drinks' establishments as beer and wine shops together. When whiskey, gin or brandy costs by the glass or the bottle no more, or not less, than wine, — the inducement is to get the stronger, & thus more stimulus for the money; while the rapid effect of spirits sooner begets the habit of intemperance.

I believe cheap light wines to be a great blessing to a country,

chusetts Board of Health. In both offices he is said to have been most efficient.

FINE OF A DRUGGIST.—A Paris druggist has just been fined five hundred francs for selling, without an order from a physician, pastiles made of calomel.

HYDROPHOBIA.—According to M. Bourrel, a veterinary surgeon at Paris, *canine rabies* may be prevented by blunting the canine and incisor teeth of the animal. He has tried it.

IN Bremen, a sum of money has been collected to offer as a prize to the discoverer of the most economical and æsthetic mode of performing cremation.

PROFESSOR ROKITANSKY of Vienna, has had the

NOT TONIC OR SOPORIFIC.

GOUT.

ADULTERATION.

WATER. SPIRITS.

LOG-WOOD.

bitter or narcotic principle.
soporific. It is
vicating than beer.
(pages 135, & 197)
d, with water,
neutralize acidity,
and is port, logwood &c. Port is
oftener adulterated than any other,
hence its use is abandoned in medicine. Manufact. wines. Here almost Champagne much counterfeited.

ANTI-SCORBUTIC.

Wine is anti scorbutic Lehman proved this many years ago, and was verified by experience during the Crimean war.

IS IT AN ADVANTAGE TO HAVE CHEAP WINES?

A question of general hygiene, is whether it is an advantage to have cheap wines. Two views are taken. Teetotlers say that wine production ought not to be encouraged. In wine countries there is intemperance. On the other hand it is assumed to be favorable to temperance. The tendency to use of spirits is perhaps owing somewhat to cold climate. The disposition to excess is greater than in wine.

DIFFERENT VIEWS.

Best wines for hygienic use: Sherry — Claret — Burgundy
& Least sour Rhine wines: ~~Hock~~ Champagne.

Hygienic dose of wine, for debility, —
Madeira, Sherry, Port, about 1 fluid ounce; Claret or Rhine
wines, — 2 fluid ounces. Champagne I would never advise
for such use. It is the least friendly to digestion (in my
opinion) of all wines, unless the driest kind. Hock.
Rhine wines

MEANS OF DISCOVERING WHETHER RED WINES ARE ARTIFICIALLY COLORED OR NOT.—M. de Cherville, in *Le Temps*, gives the following useful hints for deciding whether red wines are or are not artificially colored: "Pour into a glass a small quantity of the liquid which you wish to test, and dissolve a bit of potash in it. If no sediment forms, and if the wine assumes a greenish hue, it has not been artificially colored; if a violet sediment forms, the wine has been colored with elder or mulberries; if the sediment is red, it has been colored with beet-root or Pernambuco wood; if violet-red, with logwood; if yellow, with 'phytolac' berries; if violet-blue, with privet berries; and if pale violet, with sunflower."

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many spirit-drinking establishments as beer and
wine shops together. When whiskey, gin or brandy
costs by the glass or the bottle no more, or even less,
than wine, — the inducement is to get the stronger, &
thus more stimulus for the money; while the rapid
use of spirits sooner begets the habits of intemperance.
I believe cheap light wines to be a great blessing to a country.

from any bitter or narcotic principle.

NOT TONIC OR SOPORIFIC

It is not tonic or soporific. It is more exciting & intoxicating than beer.

GOUT.

It produces gout (pages 135, & 197)

ADULTERATION.

WATER. SPIRITS. LOG-WOOD.

Wine is adulterated, with water, spirits, lime, salts (to neutralize acidity, and in port, logwood &c. Port is oftener adulterated than any other, hence its use is abandoned in medicine. Manufact. wines. Like almost Champagne much counterfeited.

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DIFFERENT VIEWS.

favorable to temperance. The tendency to the use of spirits is perhaps owing somewhat to cold climate. The disposition to excess is greater than into wine.

Best wines for hygienic use: Sherry — Claret — Burgundy & Cheap sour Rhine wines; rather than port.

End 14th ~~Lecture~~, 1873.

Agave Americana: ~~It~~ blooms once in about 10 years, in a warm climate; at much longer intervals in the colder. "Century plant."

Contains trimethylamin – allied to the propylamin of fish-brine.

OTHER VINOUS BEVERAGES.

There are many other vinous beverages. In the West Indies, guarapo is made from the juice of the sugar cane. In Mexico a wine is made from the maguey plant. A hole is cut in the GUARAPO. stem, and the sap allowed to flow. PULQUE. Each plant yields about 8–15 pints daily for two or three months. This pulque soon gets a fetid odor and taste which are very disagreeable until habituated to it. Aguardiente is AGUARDIENTE. distilled from it. In the East & TODDY. in S. America, toddy is made from the sap of the palm tree.

SPIRITS. The next in order come spirits: BRANDY. brandy, whisky, gin & rum, distilled.

Brandy is distilled from grape wine. The best Cognac is from the best wine. It is somewhat astringent, and more available than the other spirits. Very hard now to get. — Strong spirits. —

WHISKY. Whiskey is obtained from grain, as barley, corn or rye, & wheat &c. It is often flavored by peat-smoke. Empyreumatic

× ∧ Fusel oil if not good in quality; this impedient is very poentially deleterious.

— See ~~Richardson, Living Age, May (or April) 1872.~~ —

matter is ... te this.
It contai...
RUM. Rum ... asses.
It is th... irits.
GIN Gin c... and
sometimes other ar... di-
urine; tho... ascertain
in this action.
WHEN ARE SPIRITS PREFERABLE? In s... e pros-
bration, ... but
as an a... ealth
they should ... altogether.
EFFECT ON: If on ... f she-
cial org... nd.
STOMACH. It hard... ning
its secr... es of
bad cases of delirium ... Delite,
LIVER. & ↑ indigestio... liver
BREATHING It acts d... ishing
the amou... en-
MUSCLES haled. ... ular
CHANGE OF TISSUE. power. ... of
tissue, often to a morbid extent.
ELIMINATION OF ALCOHOL. As regards the elimination of
alcohol, some say that it passes
in watery

2

Artificial Essences

(Rep. Mass. Board of Health, 1873)

Nitro-benzol is "artificial Oil of Bitter almonds". It has quality; thus
in no prussic acid in it, — but is
poisonous in dose of 1 or 2 drops —
or when long inhaled.

Oil of bitter almonds can be
quite rid of prussic acid, — and
ought always to be, — as by repeated
distillation with Caustic potassa.

Butyric ether, in alcohol, is pineapple
essence. Pelargonic ether (Oenanthic ether)
in alcohol is quince essence. Acetate of
Amylic ether makes pear essence.
Valerianate of amylic ether, apple essence.
Mixture of acetate of amylic ether with butyric
ether, banana essence. Other similar
preparations give several other fruit
essences, — strawberry, raspberry,
currant, apricot, &c, —

of April) 1872. —

perhaps execute

matter is often put in to imitate this.
It contains butyric ether, (smells).

RUM. Rum is obtained from (fermented) molasses.
It is the strongest of the spirits.

GIN Gin contains oil of juniper and
sometimes other aromatics. It is hence, di-
uretic; though, like other stimulants of the kidneys, uncertain
in their action.

WHEN ARE SPIRITS PREFERABLE? In some states, as (in) extreme pros-
tration, spirits are the best (remedy) but
as an article of (ordinary) regimen in health
they should be ~~abstained from~~ avoided altogether.

EFFECTS: From the (post mortem) examination of spe-
cial organs (in hard drinkers) alcohol has been found:
It hardens the stomach, altering
the secretion. Among the (signs) of
delirium tremens are loss of appetite,
STOMACH, indigestion. (Copious degeneration) of the liver
bad cases & LIVER. It acts on respiration, (diminishing)
BREATHING the amount of carbonic acid, ex-
haled. (In large amounts) it prostrates the muscular
MUSCLES power. It retards the change of
CHANGE OF TISSUE: tissue, (to) a morbid extent.

ELIMINATION OF ALCOHOL. As regards the elimination of
alcohol, some say that it passes
(unchanged)

Arabic, ʃ3j to ʃ3jʃp absolutely useful to every adult !!

the Duchyk has asserted that ~~the vapor~~ ~~that~~ aldehyde, not alcohol.
unchanged. It is true that much does. It is exhaled from the lungs. Where the system needs it, no such exhalation takes place: as in low fever.

SPONTANEOUS COMBUSTION

We ~~sometimes meet with~~ permanent saturation of all the tissues. When this is the case, ~~spontaneous~~ combustion ~~results~~ from exposure to fire; not spontaneously.

The average length of life &c. are given in the tables (page 226.) Meison.
The younger intemperance becomes a habit, the sooner the downfall.

ARE THERE CIRCUMSTANCES IN WHICH SPIRITS ARE ADVANTAGEOUS?

We will now attempt to answer the question, are there circumstances in which spirits are advantageous? ~~to~~ In extreme cold. In Arctic explorations, Drs. Kane, Hays, Hooker (Antarctic) say they are injurious. Guides in the Alps and bathers at Dieppe, find themselves better without. So we see that in extreme cold they are disadvantageous.

EXTREME COLD.

See Lecture Notes

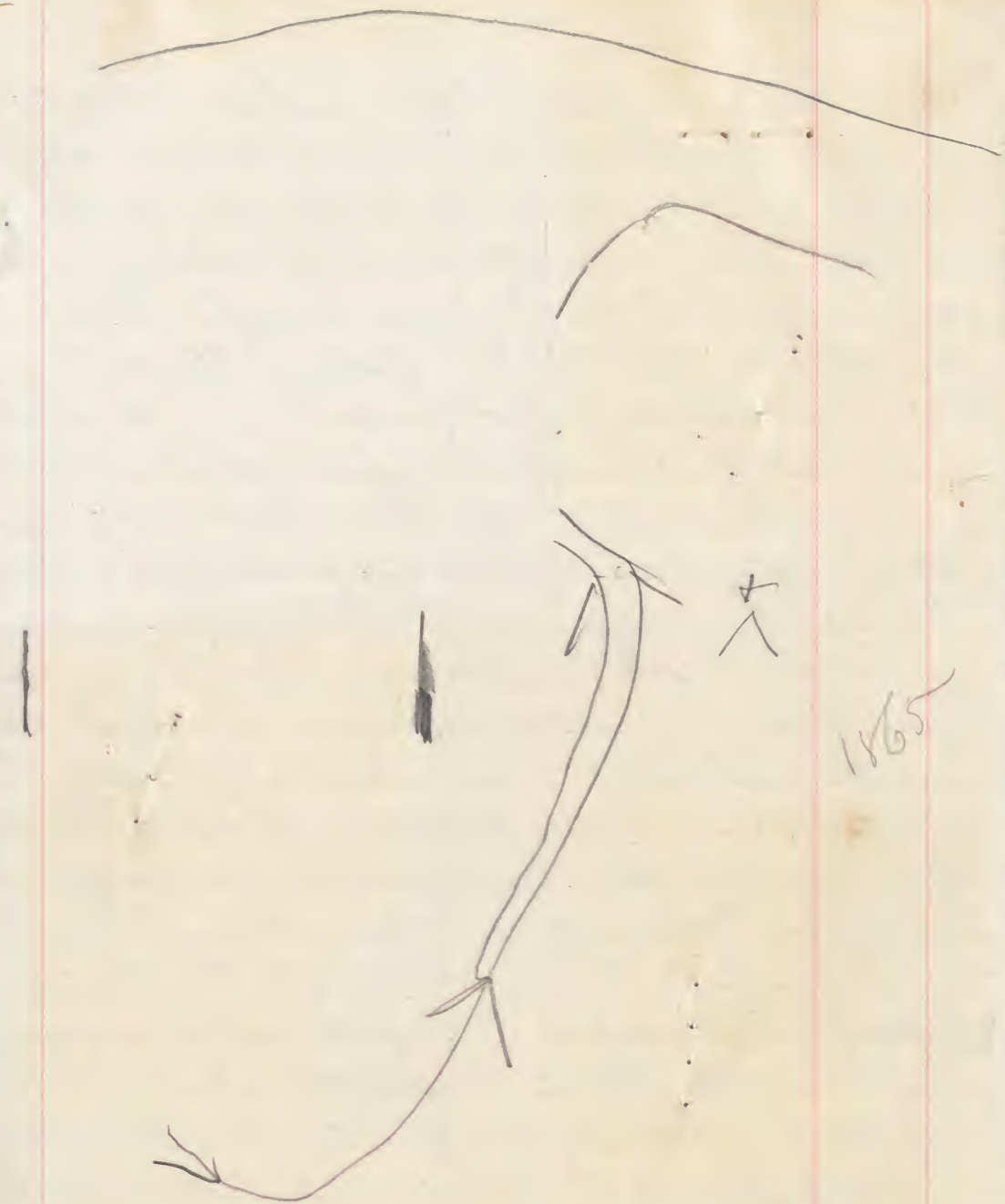
In extreme heat the same thing is asserted by Drs. Carpenter, Jackson,

EXTREME HEAT.

and Martin. The rapid deaths of
INDIA. the English in India are owing
to this cause. So great is the mortal-
ity, that the ration of spirits has
DR. PARKES. been reduced one half. Dr. Parkes
advises abolishing it altogether.
FLORENCE NIGHTINGALE. Florence Nightingale is confident
that is the great preventive of the
acclimation of the British.

EXTREME FATIGUE. 3rd. In extreme fatigue. In ship-
wreck, coffee is better. In war it
is a settled thing. In the war of
U. S. 1812. 1812 Surgeon Mann protested a-
gainst its use As coffee is the
soldier's best friend, so spirits may
be called his worst enemy. In
the Crimean war, Sir John Hall
asserted this. Part of the corps of
GERMANIC CONFEDERATION. the Germanic Confederation had spir-
its and part had not. Of those who
had, the average of deaths was
2.17 per cent while of those who
had not, it was 1.27 per cent.

MALARIA. 4th Does it protect from malaria?

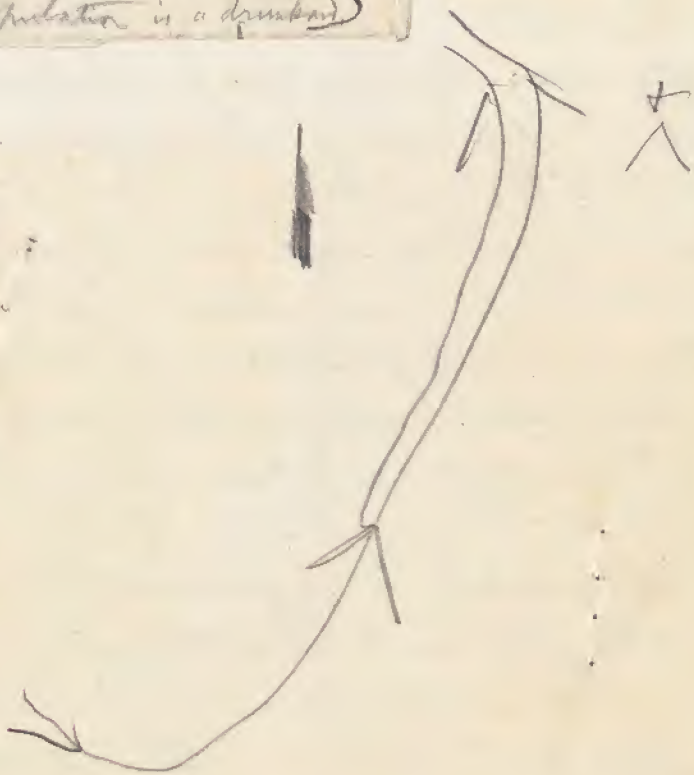


1865

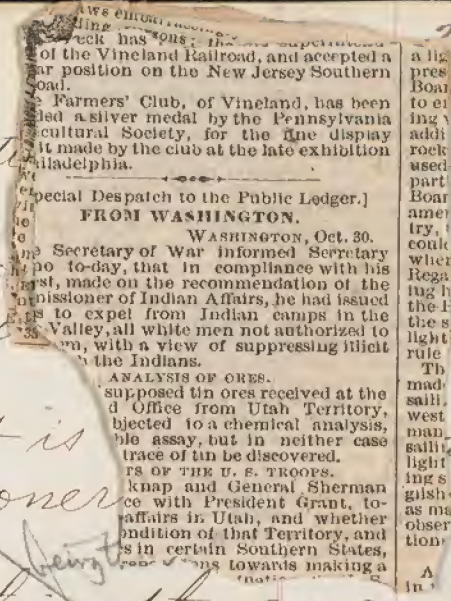
Dr. Drake of Ci
stinence is bet
YELLOW FEVER. 5th. Yellow
ous victims
ards.
CHOLERA. 6th. Cholera
drunkards
one else.
AMOUNT CONSUMED. In spite
consumed in Great
Britain, alone 25,000,000 gallons
ENGLAND a year are used, or in England,
SCOTLAND 3½ gallons per head, Scotland 2⅞,
ENGLAND. Ireland 1½. Ireland has the
repulation of great intemperance.
Dr. Johnston explains it by saying
that the Celtic race is more ex-
citable, more easily intoxicated,
and that the intemperance occurs
in those who suffer from want
of food.
FATHER MATTHEWS. Since the time of Father Matthew
there has been an increased con-
sumption of spirits in Ireland.

Officially, 1 gallon whiskey and 6 bu. corn annually per head of pop. in U.S.

(1966) (A private calculator has estimated that 1 in 100 of the U.S. population is a drunkard)



1865



of the Vineland Railroad, and accepted a
ar position on the New Jersey Southern
oad.
Farmers' Club, of Vineland, has been
ded a silver medal by the Pennsylvania
cultural Society, for the fine display
it made by the club at the late exhibition
iladelphia.

pecial Despatch to the Public Ledger.]

FROM WASHINGTON.

WASHINGTON, Oct. 30.

e Secretary of War informed Secretary
po to-day, that in compliance with his
rst, made on the recommendation of the
missioner of Indian Affairs, he had issued
s to expel from Indian camps in the
Valley, all white men not authorized to
m, with a view of suppressing illicit
the Indians.

ANALYSIS OF ORES.

supposed tin ores received at the
d Office from Utah Territory,
bjected to a chemical analysis,
ble assay, but in neither case
trace of tin be discovered.

TS OF THE U. S. TROOPS.

knap and General Sherman
ce with President Grant, to-
affairs in Utah, and whether
ondition of that Territory, and
s in certain Southern States,
ons towards making a

Dr. Drake of Cincinnati
stinence is better.

YELLOW FEVER. 5th. Yellow fever
ous victims are uno
ards.

CHOLERA. 6th. Cholera. It is
drunkards die sooner
one else.

AMOUNT CONSUMED. In spite of this, the amount
consumed in Great
Britain, alone 25,000,000 gallons
ENGLAND a year are used, or in England,
SCOTLAND 3 9/9 gallons per head, Scotland 2 7/9,
ENGLAND. Ireland 1 1/2. Ireland has the
reputation of great intemperance.
Dr. Johnston explains it by saying
that the Celtic race is more ex-
citable, more easily intoxicated,
and that the intemperance occurs
in those who suffer from want
of food.

FATHER MATTHEWS. Since the time of Father Matthew
there has been an increased con-
sumption of spirits in Ireland.

THE SALES OF LIQUORS in the United States during the fiscal year ending June 30th, 1871, it has been calculated by Edward Young, the Chief of the Bureau of Statistics, amounted to six hundred millions of dollars. This total is made up as follows:—Sixty million gallons of whisky, at six dollars a gallon retail, $360,000,000. Two and a half million gallons of imported spirits at ten dollars a gallon, $25,000,000. Ten million seven hundred thousand gallons of imported wine at five dollars a gallon, $53,500,000. Sixty-five million barrels of ale, beer, and porter, at twenty dollars a barrel, $130,000,000. Native brandies, wines and cordials in unknown quantities, it is estimated have been consumed, involving an exr diture of $31,500,000. These figures, alth not so large as some that have bee lished, yet give a total that should a the consumers of ardent spirits. Th of six hundred millions of dollar would in less than four years pa National debt, or if invested in internal improvement, would con the unfinished and projected wori United States.

gallon

Coun

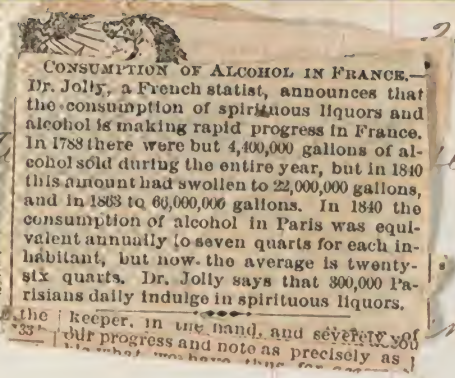
U. S

calculator

that 1 in 100

As U.S. population is a drunkard

1865



CONSUMPTION OF ALCOHOL IN FRANCE.—Dr. Jolly, a French statist, announces that the consumption of spirituous liquors and alcohol is making rapid progress in France. In 1788 there were but 4,400,000 gallons of alcohol sold during the entire year, but in 1840 this amount had swollen to 22,000,000 gallons, and in 1863 to 60,000,000 gallons. In 1840 the consumption of alcohol in Paris was equivalent annually to seven quarts for each inhabitant, but now the average is twenty-six quarts. Dr. Jolly says that 300,000 Parisians daily indulge in spirituous liquors.

keeper, in one hand, and severity of
our progress and note as precisely as

Dr. Drake of Cincinnati ... b-
stinence is better.

YELLOW FEVER. 5th Yellow fever. ... 2-
ous victims are une... nk-
ards.

CHOLERA. 6th. Cholera. It is certain that drunkards die sooner than any one else.

AMOUNT CONSUMED. In spite of all this, the amount consumed is fearful. In G Great Britain, alone 25,000,000 gallons a year are used, or in England,

ENGLAND 3 9/9 gallons per head, Scotland 2 7/9,

SCOTLAND Ireland 1 1/2. Ireland has the

ENGLAND. reputation of great intemperance. Dr. Johnston explains it by saying that the Celtic race is more excitable, more easily intoxicated, and that the intemperance occurs in those who suffer from want of food.

FATHER MATTHEWS. Since the time of Father Matthew there has been an increased consumption of spirits in Ireland.

draws around... of sur-
rounding persons; the agreeable privacy of
conversation ceases, and you become the de-
claimer to a small audience. The effect of this
almost inevitable to silence your companion,
particularly if that companion be a lady, and
of ordinary lady-like sensibility. There is an
opposite extreme of all this, however, which
is equally to be deprecated. It is pitching the
voice so low, and using so little tone, that re-
marks have tiresomely to be repeated; more-
over, imparting to the conversation a confi-
dential character, by which, when combined
with a certain bending or leaning towards
the person with whom you are conversing,
we have seen ladies excessively and justly
annoyed.

ited
une
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It should, however, at twenty dollars a barrel, $130,-
000,000. Native brandies, wines and cordials
in unknown quantities, it is estimated
have been consumed, involving an exp
diture of $31,500,000. These figures, alth
not so large as some that have bee
lished, yet give a total that should a
the consumers of ardent spirits. Th
of six hundred millions of dollar
would in less than four years pa
National debt, or if invested in
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gallon

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calculator

that 1 in 100

1st U.S. Population is a drunkard

1865

Dr. Drake of Cincinnati . . . b-
stinence is better.

YELLOW FEVER. 5th. Yellow fever. . . . er-
ous victims are und . . . nk-
ards.

CHOLERA. 6th. Cholera. It is certain that drunkards die sooner than any one else. *

AMOUNT CONSUMED. In spite of all this, the amount consumed (being the truth, Still clarified) in G & Great Britain, alone 25,000,000 gallons a year are used, or in England,

ENGLAND 3 9/9 gallons per head, Scotland 2 7/9,
SCOTLAND
ENGLAND. Ireland 1 1/2. Ireland has the repulation of great intemperance. Dr. Johnston explains it by saying that the Celtic race is more excitable, more easily intoxicated, and that the intemperance occurs in those who suffer from want of food.

FATHER MATTHEWS. Since the time of Father Matthew there has been an increased consumption of spirits in Ireland.

DEATHS FROM INTEMPERANCE.—The statistics of the General Life Insurance Company of London, it is announced, prove that if one hundred thousand intemperate persons from fifteen to seventy years of age be compared with one hundred thousand persons of regular habits, thirty-two of the former class will die as frequently as ten of the latter class. Out of one hundred thousand of each class 16,907 of the intemperate, it is said, will be dead before the age of fifty, and only 4266 of the temperate. The proportion of the deaths of intemperate to temperate persons, it is calculated, is, therefore, thirty-two to ten.

in unknown quantities, it is estimated have been consumed, involving an exp diture of $31,500,000. These figures, alth not so large as some that have bee lished, yet give a total that should a the consumers of ardent spirits. Th of six hundred millions of dollar would in less than four years pa National debt, or if invested in internal improvement, would com the unfinished and projected wor United States.

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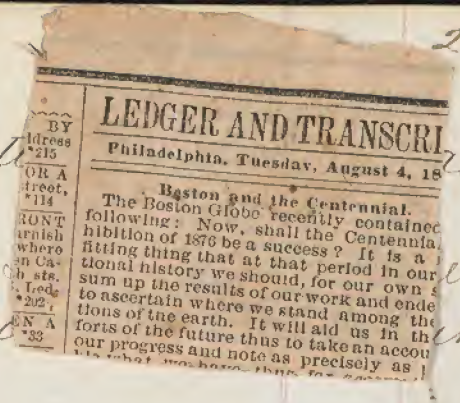
LEDGER AND TRANSCRI
Philadelphia, Tuesday, August 4, 18
Boston and the Centennial.
The Boston Globe recently contained
following: Now, shall the Centennia
hibition of 1876 be a success? It is a
fitting thing that at that period in our
tional history we should, for our own
sum up the results of our work and ende
to ascertain where we stand among the
forts of the future thus to take an accou
our progress and note as precisely as

Dr. Drake of Cincinnati ab-
stinence is better.

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FATHER MATTHEWS. Since the time of Father Mathew there has been an increased consumption of spirits in Ireland.

100 years ago!

chusetts. Flip and toddy were sinful drinks also much in vogue with our abandoned ancestors. Madeira was the favorite wine all over the country, and rum punch found favor without distinction of party. The students of Harvard were allowed "in a sober manner to entertain one another and strangers with it," the corporation having decided rum punch "as it is now commonly made, no intoxicating liquor." Now-a-days Massachusetts courts decide lager beer to be intoxicating. Can it be that our heads are so much weaker than our fathers'? There were plenty of chances to wet one's whistle in those days. One house in every ten in Philadelphia sold drink, in 1774. So the grand jury found.—*F. W. Frost in the Galaxy.*

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that 1 in 100

U.S. population is a drunkard

1865

Dr. Drake of Cincinatti shows that abstinence is better.

YELLOW FEVER. 5th. Yellow fever. The most numerous victims are unacclimated drunkards.

CHOLERA. 6th. Cholera. It is certain that drunkards die sooner than any one else.*

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